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Waste Manures.

HORN PITHS—REFUSE OF TANNERIES, WOOLEN MANUFACTORIES, PAPER MILLS, ETC.

There is no subject of greater practical importance to the farmers of the older settled States, than that of manures; but it is not our intention at this time to go into any discussion as to the advantages of sheltering the manures of our farm stock, or of composting green manures with swamp muck, or leaf-mold from the woods, nor of the importance of saving the urine of our cattle, and the droppings of the poultry. All these subjects have been ably discussed in our journal within the past two years, and we think have resulted in much good. In this, we purpose to call the attention of farmers to a few of the waste materials that may be obtained at some of our various manufactories, because valuable manuring substances can sometimes be obtained at such places in considerable quantities, and at reasonable prices. In many places, horn-piths can be had at the tanneries by cartloads, and in those sections of the country where there are no mills for crushing bones, they are not considered of much value; but, "pound for pound," they are worth more than large solid bones, because the piths, from their more open porous structure, decompose much sooner in the soil than the more flinty solid bones of animals, and consequently are more readily available as a manure. We know a farmer who has used several cartloads of horn-piths the two past seasons, for manuring his potatoes in the hill—a pith in each hill at the time of planting, more than doubling the crop over those rows having no manure. As the potatoes are dug, the piths are thrown into heaps, and afterwards carted off and deposited in a safe place for the next year's use. They will last for this purpose, many years. This farmer pays about one dollar and fifty cents a cartload. He also occasionally obtains from the same yard, the lime, after having been used for starting the hair on the hides and skins, as well also as some of the fleshings and poor quality of hair. These are made into compost by mixing with loam or muck, and make a good and lasting manure, and at a much cheaper rate than he could procure stable manure.

The waste wool from woolen factories and carding machines, can be some times had at a trifling cost. Wool and woolen rags contain a large per cent. of nitrogen, and about five per cent. of sulphur. One hundred pounds of wool contain about seventeen pounds of nitrogen—as much as there is in the very best guano, and more than there is in thirty hundred pounds of fresh cow dung. Wool and woolen rags decompose very slowly in wet stiff soils; therefore, if used in their natural state, they should be spread upon sandy, or light, warm, loamy land, and plowed in. On such land they are valuable and lasting manures. Great quantities of waste wool and woolen rags are used to manure the hop grounds in England, and the hop-growers there, readily pay from $25 to $50 per ton for them as manure for their hop grounds. From the slow decay of wool and rags, they probably can here be most economically employed when previously rotted, by being made into a compost, and then applied to the wheat crop. We are not prepared to say exactly what our farmers could afford to pay per pound, or ton, for waste wool and rags. As far as nitrogen is valuable in guano or other manure, wool is one of the most valuable, and the farmer perhaps would not be running a great risk in paying one cent per pound for waste wool or rags.

Lime is extensively used at some paper mills, for removing the gritty substance on straw, the straw being boiled for a number of hours in lime and water. We have known this lime to be sold at a cheap rate at a paper mill. Perhaps it has lost some of its alkaline qualities by the process, but yet we think it might be profitably employed in composting with muck, loam, &c.

In some sections of the country, large quantities of salt pork, mackerel, and other pickled fish, are sold by the country store-keepers. They usually make but little or no account of the brine and salt. Farmers can frequently obtain this refuse salt at a cheap rate. Salt has not, as we are aware of, been very extensively used in this country for manurial purposes. Relying upon Mr. JOHN JOHNSTON'S statements in regard to the use of salt in growing wheat, we think it would be well for farmers to experiment with it upon their wheat crops, carefully noting the results.

The White Daisy.

Many portions of the State of New-York and Pennsylvania are infested with this weed—in many places we may observe the clear white of its abundant blossoms contrasting with the deep green of surrounding vegetation. It is hardy, and seems to flourish where other plants are starved, while on fertile soils it vies with the most luxuriant, endeavoring to outstrip every cultivated crop, and thus exhibiting to the passer-by the unthrift of every farmer who suffers its existence upon his soil. It is a very prolific weed, each root throwing up from sixty to seventy-five main stalks, each with half a dozen side branches, and not one without its seed head well filled with fully developed germs for future crops of this pest of the farm.

Upon stumpy land it is very difficult to eradicate the white daisy. But on land which can all be plowed, while they are in early blossom, just deep enough to cover them well, they can soon be eradicated. After the first plowing, allow the roots to dry for a few days, and then, in dry weather, plow again, being careful to plow well, and follow with a thorough harrowing. When the proper season arrives for sowing buckwheat, plow and harrow again, and sow thickly with this grain, and the daisy will be destroyed, if the work has been thoroughly done. The importance of bringing the soil into full cultivation while the daisy is in blossom cannot be overstated. Turn the weeds all under before the seeds begin to ripen, and with the harrow keep the plants from taking root, and they will soon give up the contest.

The seed product of the white daisy is enormous. There are not often less than one hundred and fifty heads to the single root—often five times that number, and each full to overflowing with seeds. We have found by actual count over four hundred—and placing the estimate at one-half that number for the lowest number of seed heads, per plant, we have thirty thousand seeds from one. At that rate of increase the soil upon which they are allowed to grow will soon have room for nothing besides.

Pulling them by hand we need only undertake after a soaking rain. Their roots, so numerous and so strongly fixed to the soil, will not come up at any time without a strong pull, and when the ground is dry the plants will break before they will loose their hold.

One of the best ways to keep clean of them is to use great caution about sowing them. Every farmer should be able to detect all kinds of foul seeds at a glance. The white daisy has a seed considerably larger than timothy seed, shaped somewhat like the seed of the carrot, but smooth and destitute of fuzz. Its color is light drab and brown, in parallel stripes, running from one end of the seed to the other. When once known it is easily detected.

Sheep Husbandry in England—Mangolds.

BY JUDGE FRENCH OF NEW-HAMPSHIRE.

Since my visit to England, it has seemed to me that in many parts of our country no more profitable business could be introduced upon our farms, than that of raising some of the large breeds of sheep, for the shambles, as well as for the wool. It was my good fortune to pass two or three weeks with some Lincolnshire farmers, spending some days at their houses and travelling with them through a part of Wales and England. Their sheep, it seemed to me, were a sure source of profit, as well as their main dependence for manure, enriching the land by remaining upon it while feeding off the crops of turnips. We cannot, in the cold part of America, pursue this system, but why may not we approximate towards it as nearly as may be? The mangold crop can be produced here better than in England, because it is adapted to a hot and dry climate. It can be kept in cellars as easily as potatoes. My own were stacked on the bottom of the cellar, 150 bushels in a heap, with nothing under or over them, and as fresh to day (April 11th,) as when pulled. Not one has decayed.

The letter, from which an extract is given below, is from one of my Lincolnshire friends, a farmer who knows his business thoroughly. He shows us that the mangold is sold there at *three dollars* a ton, (of 2240 lbs.) at a good profit. Every farmer ought to have his cellars full of them, to feed abundantly to his cows and sheep, and to his swine in the summer, for they will keep through the whole season, and swine will eat them raw when partly dried. Mr. Mechi of Tiptree Hall, feeds them also to his horses, and pronounces them valuable for that purpose.

But to return to our *moutons*. A one year old sheep, before shearing, which in Lincolnshire is called a *hog* or *hoggett*, is worth now from $12 50 to $17.50. What would the same sheep be worth here? By the wholesale prices in the N. Y. Tribune of April 2nd, the whole carcases of lambs are worth twelve cents per pound. The lowest prices quoted for wool, are "native and quarter Merino 42 to 45 cents" What the Lincolnshire wool is worth here I do not know, but take the English price of 37½ cents, and the average weight of meat and wool, and we have the value of such a sheep in New-York as follows, at wholesale prices:

90 lbs. of Meat, at 12 cts.,	$10.80
11 lbs. Wool, at 37½ cts.,	4.12½
Value of one year old Sheep,	$14.92½

Now why cannot our farmers give attention to this matter, and instead of producing the small fine wooled sheep, and keeping them till they die of old age, substitute a large heavy animal that shall be fed abundantly as we feed our pigs in New England, and be sold at twelve or fifteen months old, at these high rates? There is no supply of good mutton in any of our markets. The hotels of New-York get mutton from England to supply the few guests who know what good mutton is. Having thus preached the sermon, I will now give the text, thanking my good friend beyond the sea for his valuable hints, which I venture to publish, though not intended by the writer for publication. For convenience of your readers I have translated the writer's English currency into dollars and cents:

"Farming is not so good as when you were here, the price of wheat being little more than half what it was then, and not much prospect of a rise If it were not for our sheep, it would be a bad lookout for farmers. It is fortunate that so much attention has been given to the improvement of sheep of late years; we are now getting the benefit in the increased weight of wool and quality of mutton and wool both, but you would, of course, hear all about that when you were here, and would not be much surprised to learn that our hogs or one year old sheep are expected to realize from $12 50 to $17.50 each, at the spring fairs, the dead weight of such sheep being from 80 to 100 pounds, at 13 cents per pound, the fleece 10 to 12 pounds at 37½ cents per pound, the present price here. Their value last October would be from $7 50 to $8 75 each, leaving a pretty fair profit. Of course, these results involve a considerable outlay of artificial food, say $2 00 each for cake, besides turnips *ad libitum*. We are now (March 17,)

in the midst of the lambing season, which has been favorable so far, with a good fall of lambs. The winter has been unusually mild; neither frost nor snow here, so that the breeding sheep have been wintered mostly on the grass lands, which is considered much better than wintering on turnips, our usual keep.

"Your favorite root, mangold wurtzel, is likely to become very general, as we have great fear that the turnip is going like the potato. The two last years they have been very indifferent. You would be surprised to see the hundreds of tons of mangolds that have passed here from the fen district, being bought by the highland farmers at $3.00 per ton—a pretty good thing for the fen men, seeing that they can grow from 30 to 40 tons to the acre—50 they say. We are trying them for sheep to eat off instead of turnips. The reports are favorable, and there will probably be some thousands of acres this season in the place of turnips.

"They would form a very valuable auxiliary I should think, with you, for the winter keeping of sheep, as I think you said you keep your sheep folded, and so you would be able to keep them always warm. The mangold being of a cold nature, I rather anticipate disappointment in the event of our winter proving severe.

"Our breed of sheep, you would remember, are the long wools, or Improved Lincolns; the old Lincoln, (a sheep about the size of an ass, and much the same symmetry,) crossed with finer breeds, the Leicester giving quality of mutton and early maturity. The improved breed, at two years old, will get to any weight you like: 200 pounds dead weight is not at all unusual, with a 12 pound fleece."

Culture of Mangolds.

It may be seasonable to give a few words of directions how to cultivate this crop. My method last year, which I shall repeat the present season, was this:

Take any old ground suitable for corn, work it fine with the plow and cultivator, or harrow; open drills with a double mould-board plow, or by going through twice with a common horse plow, thirty inches apart. Manure in the drills with eight cords to the acre of any strong manure, coarse or fine; cover the manure with the plow, roll lightly to flatten the drills, and sow from May 20th to June 5th, one foot apart, three seeds in a hole, cover very lightly. Sow broadcast on the drills, 10 to 12 *bushels* of *salt* to the acre. Work the land after the plants appear, with the horse hoe. Thin out to one plant in a place, being very careful not to wound a plant with any tool. If the seed fails, fill the spaces with Swede turnip seed any time in June. The Mangold does not thrive well transplanted.

I tried last year the long and globe red, and the long and globe yellow. They were all good and all keep well, and I have no preference.

The Sugar beet yields about as well, and probably is equally valuable.

Hoping the sheep and mangolds will not be forgotten, I bring this article to a not untimely end. *Exeter, New Hampshire.*

Sending Grafts by Mail.

The mode of sending grafts by mail, so that, if some weeks on the way, they may arrive perfectly fresh, is becoming well understood by many. It consists in simply enclosing them in oil-silk, wrapping fine thread around so as to bring all parts into contact and making a water-tight case. One of the worst things to wrap about grafts is dry, unsized paper, which absorbs the moisture rapidly from the fresh wood. These remarks are suggested by having just received from a correspondent some grafts of the *Eiden plum*, put up simply in paper, and they had become dry enough for kindling wood. The ends had been waxed, but as shoots absorb and discharge moisture rapidly through the bark along their entire length, the waxing was of no use.

A friend once sent us in autumn, from a long distance, some apple grafts; and as they would probably be several weeks on the road, he purposely left the leaves on as a moist casing to prevent their becoming dry. As leaves are constantly pumping out and throwing off the moisture from the shoot, the result may be easily guessed—the grafts were as dry as dead twigs when they reached us. Unwilling to lose them however, we immediately wrapped them in moss and buried them in soil, where they remained till spring. When examined, they had become swollen, plump and fresh, and being set, all grew. We have served the above mentioned plum grafts in the same way, and there is a bare possibility they may be recovered.

In another instance we had given particular directions to a friend for putting up a few scions of a rare sort, but he thought to improve upon them by first wrapping them in cotton-batting, and then applying the oil-cloth casing. The consequence was, the cotton-batting, acting as a dry sponge, absorbed nearly all the moisture from them, and they were dry and shriveled when received. The result was the same as if they had been placed in the folds of unsized paper.

It may be rather late now for these remarks to be in season, but the same rules apply to the transmission of buds at midsummer, and some of our readers may bear them in mind till that period.

Best Sheep for Mutton.

MESSRS. EDITORS—As there has, through your columns, questions been asked and answered in relation to which was the best breed of sheep for mutton, it may not be amiss for me to add my experience to what has already been obtained from others. Three years ago last fall, while buying fat sheep for feeding in Canada, I found a gentleman that had a few fine Leicester ewes that he would part with, and I bought them. I then obtained from Messrs. BRODIE & HUNGERFORD a nice Leicester ram, and commenced sheep breeding. I raised the first year, lambs that at eight months old weighed from 120 to 145 pounds, and the next spring sheared from six to ten pounds of clean washed wool each.

Last spring I had two lambs twelve months old, that I did not wish to retain in my flock on account of being inferior to the rest, and sold them to a neighbor. They were sheared and turned out to grass alone until after harvest, or about the last of August, since which time they have had an allowance of grain and roots with some hay, daily. They were sold in January to Capt. McGraw, the great Albany sheep man, for $45, the one weighing 215 and the other 249 pounds, and he pronounced them the best sheep for their age, that he had ever handled. Quite a compliment from a man that handles his 2,000 sheep or over every week. They are now about 21 months old. JURIAN WINNE. *Bethlehem, Albany Co.*

Supports for Flower Stems.

Galvanized iron wire, number nine, which can be obtained at most hardware stores, cut into proper lengths, makes the best supports for the stems of plants of anything we know of. They are not half as much trouble to make, and are more neat than wooden rods; they need no paint, never rust, and can be used year after year. Tie the flower stems to the rods with bass matting or loosely twisted twine. For tall growing plants use nail rods, cut into proper lengths, and painted green. G. B. H.

The Apiary.

Construction of Hives.

It is now time for all who intend increasing their stock or changing their system of management to be making preparation. I would submit the accompanying drawings to the judgment of your readers, and hope they may call forth some further improvement. The hive is simple, cheap, durable, is easily handled, and affords sufficient protection for this latitude, and not difficult to construct.

DESCRIPTION.—The hive is made of inch stuff Inside measurement 14 inches wide, 18 inches long, 10 inches deep. Top the same size—total height inside, 20 inches. The drawings are $\frac{3}{4}$ inches to the foot. *a. a.* in all the figures, represent stops, screwed on the body of the hive, to hold the top in place.

Fig. 1., *b.*, projection of 4 inches for a lighting board—*c. c.* entrance.

Fig. 2. "Spare honey board," or cover in position, being $\frac{1}{4}$ inch longer and wider than the interior of the hive, leaving a $\frac{1}{4}$ inch margin for the top to rest upon—4 holes and space for 4 boxes 6 inch. square.

Figs. 3 and 4. Sections showing how the cover and also the sides of the top are beveled—*d. d.* end and side view of frames in position.

Figs. 2 and 4.—*b. b.* battens to keep cover from warping, screwed on.

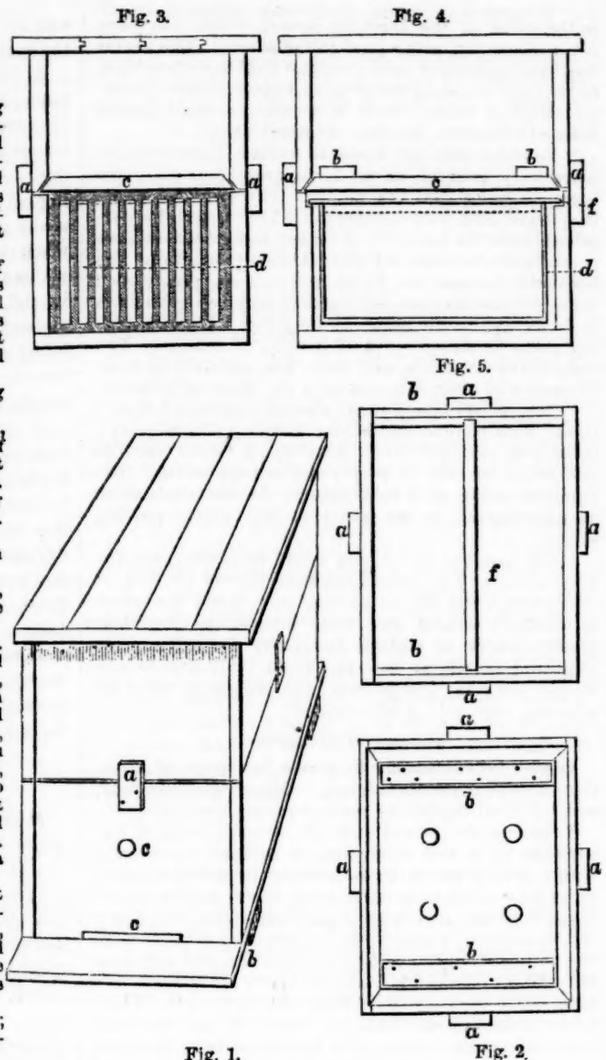
Fig. 5. Body of the hive—fig. 4 and *b.* fig. 5, show the front and rear, cut down to receive frames or slats, $\frac{3}{4}$ inch deep by $\frac{1}{2}$ wide.

I consider any further explanation unnecessary.

If "movable frames" are not used, slats should be $\frac{1}{4}$ inch thick and 1 inch wide, $\frac{1}{2}$ inch apart, nailed in place slightly, just enough to keep from moving. The expense of this is a mere trifle, and if you should afterwards wish to experiment with, or to adopt the "movable frame" system, you can readily remove the slats, cut out the comb, and transfer the frames; and should you wish to "take up" such a hive, it is much easier to cut out the comb than in an ordinary box hive, and the expense of construction is nearly the same. This is one of the many advantages in having a hive shallow.

The Rev. L. L. LANGSTROTH, who has the right of "movable frames," has a hive of double construction, and entirely surrounded by glass, which, for purposes of observation, it is well to have, and also his single frame observatory hive. In the latter, the queen may be seen at all times. This I mention for amateurs.

For general use I prefer the pattern here given; the interior dimensions are the same as Mr. Langstroth's.



The Chinese use a hive with a movable top, and when they wish to remove the honey they stupify the bees with smoke, and cut from the top, where the best honey is always stored. Until within a few years we have not managed any better than the Celestials, and many throughout the country do not manage as well as they.

By the use of smoke, one can always safely remove the cover of the hive and judge as correctly of the condition of the interior as they could, by looking through glass sides, and, for utility, I would as soon think of putting a pane of glass in the side of a potato barrel as in a bee-hive with movable cover. Some may think there is a loss of material in having the top as deep as the body of the hive. The loss is trifling, and, in using frames, it is very convenient to reverse the top, and deposit the frames in it during an inspection, for purpose of experiment, etc. To prevent the entrance of rain, the front should rest an inch or two lower than the back. E. P. *New-York.*

To Prevent Potatoes Sprouting.

Some advise to put potatoes for summer use in barrels, and occasionally empty them from one barrel to another, but I have found that a much more effectual way to prevent their growth, is to shake them in a basket. Take a common basket that will hold a bushel or more; fill it half or two-thirds full, and after giving a good shaking, if the sprouts are long, you will find most of them at the bottom of the basket, and the remainder completely "scotched." It is a more *pleasant, certain,* and vastly more *expeditious* way than sprouting by hand. Try it. H. V. WELTON. *Waterbury, Ct.*

Recipe for Corn Bread.

MESSRS. EDITORS—We have noticed several recipes in the Co. Gent. for making *corn bread,* most of which we have tried, but think none of them equal to the following, which we send you, hoping that every good housewife will give it one trial, and our word for it she will never abandon it. The advantages claimed over other recipes, are,

1st. Sweeter and better bread.

2d. Easier made, as no kneeding is required.

3d. No milk, sweet or sour, is required—neither *rye meal*—so it can be made by all classes, whether they keep a cow or not.

For two loaves—take—

6 quarts Indian meal,
3 quarts wheat flour,
$\frac{1}{2}$ pint good molasses,
1 pint good yeast.

Add warm water enough to reduce it to a thick batter—pour it into the dishes intended to bake in, and set in a warm place to rise. Bake three hours in a *Stewart's stove.* Eat *warm or cold.* MOTHER. *Orleans Co. N. Y.*

Cure for Chilblains and Frosted Feet.

Apply common tar to the parts affected, and bind it up with cloth, so as not to interfere with wearing the stocking. Wear this four days or a week. This I know is a sure cure, though it does not cost much. W. A. B.

Proper Depth for Covering Grass Seeds.

About a year ago we published several articles on the proper depth of covering grass seeds, in one of which we gave a table, showing the depth in inches and fractions of an inch, at which the greatest number of seeds germinate; also the depth of soil, in inches and fractions of an inch, at which only half the seeds germinate: and further, the least depth of soils in inches and fractions of an inch, at which none of the seeds germinated.

For the benefit of our new subscribers, we republish the table:

Orchard grass,....	0 to ¼ inch,	¾ to 1 inch,	2½ inches.
Timothy "	0 to ¼ "	¾ to 1 "	2 "
Red Clover, ...	0 to ¼ "	1¼ to 1½ "	2 "
White Clover,....	0 to ¼ "	½ to ¾ "	1½ "
Tall-Oat grass,....	½ to ¾ "	1½ to 1¾ "	4 "

The first column shows that the five kinds of seeds germinated as well on the surface of the ground, as those that were covered from one-fourth to three-fourths of an inch; but it is proper to say that the soil used in the experiments to ascertain the proper depth of covering, was kept moist during the process of germination, though freely exposed to the light, which accounts for the large number of seeds germinating without any covering whatever.

Only one-half of the several kinds of seeds germinated, when covered at the depth specified in column second; and none of the seeds germinated when covered at the depths specified in the third column. The above statements no doubt will surprise many farmers, but we presume they are nearly or quite correct, for the experiments were made by the Messrs. LAWSON, eminent seedsmen in Edinburgh, who "have paid much attention to this subject, and whose experience and observation in the practical culture of grasses, has been larger and more extensive than those of any other seedsmen."

If, as stated by Messrs. LAWSON, red and white clover and timothy seeds, fail to germinate when covered two inches deep, we think many farmers lose a large portion of the grass seeds sown by them. To save time in sowing their seeds, some farmers wet their seed oats, rye, and wheat, mixing the grass seeds with the wet grain; the small seeds adhering to the grain, can be sown perhaps more evenly than if the dry seed is sown alone. But as the grain is sometimes plowed in with a shallow furrow, or worked in by the cultivator, or more frequently by several harrowings, it is probable that much of the grass seed gets buried too deep to vegetate. We have occasionally known farmers to sow their wheat and grass seed on the furrow, and then harrow crosswise the furrow, for the express purpose of burying the seeds deeply, thinking the young grasses would much better stand the drouth if the seed was deeply buried, not even suspecting but what the grass would come up if buried six inches deep. More seed wheat will vegetate when covered from one to two inches deep, than if covered deeper. In October, 1857, says Mr. KLIPPART, Cor. Secretary of Ohio State Board of Agriculture:

"I sowed some wheat on the surface of the soil, some at the depth of one, three, four and seven inches. That on the surface and at one inch, germinated and came above ground in six days; at three inches in eight days; at four inches in ten days; at seven inches in eighteen days. Unfortunately, my arrangements to ascertain the proportion at each depth that came above ground of the whole number sowed, was interfered with, but there were two or three only out of a hundred at seven inches, that came above ground, and they perished during the few cold days in November. My impression is that about three-fourths of that sowed at four inches came up; all of that at three inches, and all at one inch; all that on the surface not destroyed by birds, germinated."

If not more than three-fourths of wheat covered four inches deep came up, under the carefully conducted experiment of Mr. KLIPPART, there can be no question but that a considerable portion of broadcast sown wheat fails to germinate, in consequence of being covered too deep in the process of harrowing; but the loss of seed wheat must be light, compared with that of the minute seeds of grass, which become buried so deeply when sown and harrowed in with the wheat.

Some persons, perhaps, may ask, if there is so much loss of grass seed in covering it with the harrow, what is the remedy? Will it do to sow the seeds upon the surface of the ground, and leave them to their fate? Perhaps not. After a field is sown with grain and sufficiently harrowed, the seeds may be sown, and by passing a heavy roller over it, the seeds will be sufficiently imbedded to warrant a nearly perfect germination; but if the roller is not to be used, then it might be the better way to pass a light harrow over the land, after the grass seeds are sown.

Within the past three years, we have stocked down many acres of land. The grass seeds have been sown both in spring and autumn; but none of the seeds were sown till the rye, wheat and oats had been harrowed in. The seeds then sown and rolled in; and in no instance have we failed to get a good catch of grass. We are confident that we get a better stand of grass, than we did when we sowed the grain and seeds together, and gave the ground a thorough harrowing; and should prefer sowing the grass seeds after the grain was harrowed in, and leaving them to their fate without rolling the ground, than to sow the seeds with the grain, and harrowing in as we formerly practiced.

If any of our readers are doubtful about this manner of sowing grass seeds, they can easily satisfy themselves in regard to it, by sowing portions of their fields with grain and grass seeds, and giving them several harrowings, and defer sowing the grass seeds on other portions till the grain is fully harrowed in; then sow the same proportion of grass seeds, and finish off with the roller.

The usual high price of grass seed, should prompt farmers to experiment with it in different ways; and by so doing, they can ascertain the safest and most economical manner of stocking down their fields. It makes a material difference with most farmers, in stocking down land, whether they get a good or a poor catch of grass, and the difference may sometimes depend very much upon the manner of putting in the seed.

We hope many of the readers of this paper will try the experiment of sowing grass seed, both with the grain and harrowing in, and not sowing till they have finished harrowing, and carefully note the results, and make them known to the public through the columns of the Country Gentleman.

Draining—Feeding Stock, &c.

MESSRS. EDITORS—On my late visit to Albany, I called on Mr. JONATHAN TALCOTT, near Rome, Oneida, who some eight or ten years ago had a good deal of correspondence with me on draining, and lately kindly invited me to visit him, and see what he had done and was doing. I have never witnessed a greater improvement made on land, than he has made and is making. The land that he has drained, you can walk on as firmly as on a carpeted floor, while that along side was a mire. His drained land raises ex-

cellent crops of potatoes, and is very profitable—also first rate oats, corn and barley, and very large crops of timothy hay. It is actually surprising to see what perseverance in draining will accomplish in rendering such land productive, yet, strange to say, his neighbors are still looking on *doubtingly*, but I think their understanding must be opened pretty soon by the doings of Mr. T. When he gets the tiles laid he has now on the ground, I think he said he would have over 40,000 laid, besides having some of his first drains laid with stone.

The subsoil on his farm is rather singular, part being a very stiff clay, and part coarse gravel. Whenever he comes near the highest ground, it is all coarse gravel. There the water gushes out very fast. His whole farm has very little rise. Some small ridges he thinks don't need draining, but if the drains that come up to their base dont relieve them of water, I have no doubt he will ultimately drain them. He gets an excellent outlet for his drains in the ditches along the railroad.

Mr. T. labors under a disadvantage in draining, having his tiles to bring from your city by railway; still the draining of his farm must pay him a very large profit. It would pay wonderfully for hay, if used for nothing else. The land he was draining when I was there, would produce nothing until drained, unless it might be some pasture during the dry weather in summer, but no other time.

Mr T. was born on the farm, and his grandfather owned it a great many years ago, but it seems they never thought of applying art to improve it, until the third generation, and Mr. T. must now be a man of about 45 years. There are many thousands of acres of similar land in that neighborhood, that could be likewise improved, if the owners had the enterprise to undertake it, and I have no doubt they will wake up by-and-by.

Mr. T. keeps about 40 cattle—a considerable part of them full blood Short-Horned Durhams of the best blood; the others are high grades, but I think if he were to reduce his stock, and give the others better keep, he would find it more profitable. I know a noted breeder of imported cattle, who condemns the practice of keeping breeding stock in any more than common condition. I think that is true, if the common keep is good enough; but there is a great difference of opinion with regard to common keeping. The common keeping in general, is bad in the extreme. No matter how good the breed may be, of either cattle or sheep, if kept in the common way, their progeny will soon degenerate, and they will soon become common stock, if not worse. It is somewhat singular that you can seldom go into a farmer's horse stable, but you find his horses in very fine condition; but go into his cattle and sheep yards, and you seldom find them in good order. I have heard many farmers say they cannot afford to feed their cattle and sheep as I do, as they would be a losing concern, and would ultimately ruin them, as they could never sell fat cattle and sheep at such prices as I do; no one would come to them and pay them such prices; but the truth is, they never make anything very good. Thirty-five years ago I thought myself worth less capital than any farmer in this town, and I fed my stock as well then as I do now; and it was by good feeding I made them pay a profit on their keep. It never pays to keep stock of any kind unless you are improving them, and far worse when they are in a losing condition for five months of the year—and thousands are so kept, and will be until farmers will give thought to the subject.

One pint, oat and corn meal mixed, daily with hay, will make a fine yearling in spring, and one quart daily through winter, will bring two year olds in fine condition to grass, and they will pay far more for the grain than if the grain had been sold for cash. Barley meal, oil-cake meal, or even buckwheat meal, will answer. Try it, farmers, and I am sure you will find it pay. A pint a day for a calf, say for six months, would be less than three bushels; but if you give four bushels it will pay you abundantly for the grain—twice as much as you could have got in market. It may not do so every year, but for a number of years I know it will be so. I know it has been so in my case, and will also be so with every one that tries it; but the great difficulty with many is, they never think of feeding grain to either cattle or sheep until they get so poor that they are afraid they will lose them; then it is like feeding roast pork and beans to a man beginning to recover from a fever; it will do harm. The right way is to begin feeding grain when the stock is in good condition, and keep them improving all the time. JOHN JOHNSTON. *Near Geneva.*

Pigs more Profitable for Fattening than Old Hogs.

MESSRS. EDITORS—Having tried an experiment with both kinds the past season, I am disposed to give you the result, hoping that others may also try a like experiment—upon a more even scale as to season of year—and report through your paper. In this way farmers may, through the medium of an agricultural paper, increase their annual income more than ten times the cost of such a paper.

In Sept, 1857, I bought two pigs at $2 each, and kept them until Dec. 14th, 1858, which was the time they were butchered. They had been fed about 60 bushels shelled corn—about half of it ground and scalded, the other half having previously been fed in the ear. The feed, other than corn, is in both experiments offset against the manure made by them. They weighed respectively when butchered, 332 and 344 lbs.

On the 26th of August, 1858, I bought two other pigs, bred by the same sow, and at the same price. They were fed mostly upon sweet apples, with a few raw potatoes and a few nubbins of corn, until Dec. 15; then commenced feeding them with corn boiled until soft, and fed cold. This kind of feed was continued about two weeks, when their feed was changed to scalded meal, which feed was continued until Feb. 8th, when they were butchered. Their respective weights, 237 and 244 lbs. They had been fed about 25 bushels of shelled corn, in form as above described. The old hogs were about seventeen months, and the pigs three days less than seven months old, when killed. Valuing the corn at 80 cents per bushel, and the pork at 8 cents per lb., the account stands as follows:

Old Hogs.	*Dr.*	*Cr.*	*Pigs.*	*Dr.*	*Cr.*
To cost of pigs,	$4 00		To cost of pigs,	$4.00	
To 60 bu. corn,	48 00		To 25 bu. corn,	20.00	
By 676 lbs. pork,		$54.08	By 483 lbs. pork,		$38.64
	$52 00	$54.08		$24.00	$38 64

It will be seen that the pigs yield a profit of $14 64, while that of the old hogs is only $2 08, to say nothing of the extra *time* and trouble in taking care of the old ones. WM. E. COWLES. *West Winsted, Ct.*

It appears to us that "S. N." of New-London Co, Ct., in your paper of Feb. 3d, must have overrated the value of what he has raised the past season. How much of his potatoes, corn, and other grain, did he use up in fattening his pork and poultry? W. E. C.

Scouring Knives.

A small, clean, potato, with the end cut off, is a very convenient medium of applying brick dust to knives, keeping it at about the right moisture, while the juice of the potato assists in removing stains from the surface. We can get a better polish by this method than by any other we have tried, and with less labor. AMANDA.

An Average Farm.

In our *resumé* of the requisites of a Good Farm, we promised some notice of the characteristics of a class of farms more frequently met with than any other—those which occupy the middle place between good and poor in management and condition—which we have called the Average Farm. In so doing, we may offer some suggestions worthy of the attention of our farming readers; few of whom, we dare say, but will find at least one thing to remind them of the chances for improvement seen at home.

The Average Farm has a *soil* of varying fertility—varying with its original character and quality—has never been like the Good Farm, so managed as to make its whole area productive. Much improvement may have been made, but there is more remaining undone—fields to clear and drain—meadows and pastures to break up and bring into more profitable tillage—corn lands to manure and subsoil—swamps to reclaim—soils to ameliorate, etc., etc., to bring out its full power of growing food for man and beast.

The *culture* or preparation of the soil for the different crops on the farm under notice, is of a medium character as to timely thoroughness. Some crops are sown on well prepared ground, in proper season; others are hurried over and neglected, for on an aveage, farmers *undertake more work than they can fully accomplish*. Hence we find imperfect and shallow plowing, insufficient or no manure, careless and unseasonable seeding, and neglected after-culture and harvesting. The great distinction between a good and an average farm, lies not so much in the soil as in the cultivation and management of the same.*

The *fences* are but just up to the necessities of an average farm—too often illy arranged and poorly constructed. In many cases the division fences still run as the land was first cleared, and might be placed so as to accommodate the present condition of the farm far more conveniently.

Fair *buildings* are generally found on the average farm—for farmers generally take more pride in these than in the excellence of their farming. But they are too often inconveniently arranged and situated, and in out-buildings insufficient to meet the wants of the stock, implements, grain and winter forage, for shelter. Working animals are usually stabled, but cows and sheep oftenest spend the winter out of doors, or with only the protection of crowded open sheds. The comfort and convenience of the housewife do not receive the needed attention, in the preparation of wood and dairy rooms, and a well arranged cellar, and convenient well and cistern, while a farm work-shop and tool-house are often entirely neglected.

The arrangements for making and saving *manures* are far inferior to what they should be—to what they profitably might be. Too often the yards afford fine facilities for *leacking* and wasting the life-blood of good crops—too often not the least attention is given to prevent its burning or fire-fanging in the heaps under the stable windows, and no care is given to provide absorbents to largely increase its quantity and improve its quality. The neglected fertilizers of the country, properly husbanded and applied, would double the products now produced, beyond all question.

An average *orchard* has received the attention of grafting, but too frequently the trees show that they are poorly cared for. The farmer forgets or refuses to believe that judicious cultivation and manuring, are as necessary to abundant crops of fruit as to those of grain. It has been demonstrated again and again that fruit culture pays large profits; still our orchards are inferior in character and value to what they might easily be made by the selection of better varieties, and proper attention to their culture and marketing.

The *garden* for fruit and vegetables is seldom what it should be, on an average farm. Lack of attention here deprives the farmer and his family of many a cheap luxury, and subjects him to inconveniences and expenses which might well be avoided. Good garden fruits and vegetables promote health as well as satisfy the appetite. Though they may not seem to pay as well as field crops, they really return a larger profit so far as needed for family use.

The *stock* on an average farm is usually of a very varied character. Too little care is given to the selection and breeding of animals—a cow is a cow, whether valuable for the dairy or comparatively worthless—a sheep is a sheep, whether it produces a profitable return or otherwise, and a hog is a hog, though it may be ever so difficult to bring it into the form of pork. More generally, however, the farm has some good animals and more poor ones, too little discrimination and reflection being given to this important subject—important to all who would make money by stock.

To conclude, we will state our conviction that the average as above indicated is annually becoming elevated in character. There are thousands now, for hundreds formerly, who are seeking to bring their farms as near as may be to the best. Soils are being enriched and improved, underdrains are reclaiming our wet and heavy lands, better systems of cultivation are coming into practice, better fences and buildings may be seen in almost every section, largely increased attention is given to manures, orchards are receiving their appropriate care, gardens are less neglected, while our stock is becoming better, and really fine animals may be found in almost every neighborhood. Let us all strive to hasten on the work—we, by collecting and diffusing information on the best methods of farm culture and management—and the farmer, by a thoughtful yet energetic application of all the means and appliances within his reach, really tending to the improvement of agriculture. Thus shall the products of farm labor become as certain and as large as in Great Britain, while they tend far more to the real elevation and advancement of those who produce them.

* "The greater certainty and generally larger yield of the crops of England and Scotland over those of our country," says Mr. Howard, since his examination of the agriculture of those countries, "proceeds in a considerable degree from the better preparation of the soil. By this we do not mean, altogether, the actual *richness* or manuring of the soil—we mean more especially that mechanical condition which affords the crop all practicable advantages. They study," he adds, "the adaptation of plants to soils—from close observation they have learned the special requisites of different crops. If the soil is deficient in any of these, and they can be economically applied, the first step is to apply them."

PEOPLE'S COLLEGE, HAVANA.—We see it stated that the Hon. FREDERICK HOLBROOK of Brattleborough, for several years President of the Vermont State Ag. Society, has been invited to accept the professorship of Agriculture in the new People's College at Havana in this State. Mr. H. has, however, we regret to have to add, after mature deliberation, declined to accept the position.

The White Grub Worm.

Among the various insects that are occasionally so very destructive to our farm crops, the white grub worm in some years, and in many sections of the country, appears in vast numbers, doing immense damage to the mowing fields and the cultivated crops. The parent of this grub is a brown beetle, some times called the May beetle or door-bug, of a chestnut-brown color, nearly an inch in length, and about half as broad. These beetles issue from the ground about the middle of May, and are some times very numerous as well as annoying while on the wing in the evening. In their droning flight they move very irregularly, darting hither and thither with an uncertain aim, hitting against objects in their way, with a force that often causes them to fall to the ground. They frequently enter houses in the evening, apparently attracted, as well as dazzled and bewildered by the lights, and frequently causing much fright and trepidation among the females and juveniles of the family circle.

The beetles, while upon the wing, in certain seasons, and in particular districts, some times do incalculable mischief in devouring the leaves of trees over large sections of country. Mouffet relates that, in 1574, such a number of them fell in the river Severn, as to stop the wheels of the water-mills.

Various animals and birds feed upon the beetle; weasels, rats, skunks and bats destroy immense numbers of them, as also dung-hill fowls, night hawks, and the crow. The skunk and crow also destroy large quantities of the white grubs, the larva of the May beetle, their instincts enabling them to seek the grubs with certainty when embedded some inches below the surface of the soil. The recent high price of skunk skins (readily selling from fifty cents to a dollar per skin,) has caused in some parts of the country, the trapping and shooting of an immense number of these striped backed essence peddlers. It would be far better for the community at large to protect both crows and skunks by legislative enactments and penal laws, than to suffer such havoc among them, as there has been of late, by 'powder, traps, dogs, and strychnine.'

To exhibit the great benefit the farmer derives from some of the insect destroyers, we quote from "Anderson's Recreations." It is stated that "a cautious observer having found a nest of five young jays, remarked, that each of these birds, while yet very young, consumed at least fifteen of these full sized grubs in one day, and of course would require many more of a smaller size. Say that on an average of sizes, they consumed twenty each; these, for the five, make one hundred. Each of the parents consume say fifty, so that the pair and family devour two hundred every day. This, in three months, amounts to twenty thousand in one season. But as the grub continues in that state four seasons, this single pair with their family alone, without reckoning their descendants after the first year, would destroy eighty thousand grubs. Let us suppose that the half, namely forty thousand, are females, and it is known that they usually lay about two hundred eggs each, it will appear that no loss than eight millions have been destroyed, or prevented from being hatched, by the labors of a single family of jays. It is by reasoning in this way, that we learn to know of what importance it is to attend to the economy of nature, and to be cautious how we derange it by our short sighted and futile operations."

Jays sometimes help themselves to the ripening corn in the field; but in 1855, the white grub destroyed more corn for us, than the jays did for the farmers in the whole township, and last season the grub was nearly as injurious to our corn.

Says Dr. FITCH, "with regard to remedies, we may observe, that in Europe the experience of centuries has failed to discover any efficient measure for destroying a similar insect during its larva period of existence. And concealed in the ground as these grubs are, it is not probable that any substance can be applied to the soil of sufficient power to kill them, without destroying also whatever vegetation is there growing."

The Dr. suggests a plan that might sometimes be put in practice. When the grubs are so numerous as to sever the grass roots, as is sometimes the case, he recommended the placing of a temporary fence around that portion of the field thronged with these grubs, and enclosing a number of swine therein, thus for a while converting the patch into a hog pasture. By so doing, the hogs would feed themselves; the grubs would be exterminated, and the land would be manured, cleansed, mellowed, and well prepared for immediately lying down to grass again, or for receiving any rotation of crops for which the owner may deem the spot best adapted. From our own experience, we think it would have been better for us to have let these grub-infested fields lain fallow than to have planted them with corn. When hoeing the corn the second time, we found in nearly every hill from one to three or more, of the full-sized grubs about the base of the plants, the roots of which they feed upon. We undertook to dig them from the hills of corn, but the remedy was about as bad as the disease, as we necessarily broke many of the remaining roots, much to the injury of plants. The result was about a third of a usual crop. If we had kept the ground fallow, and harrowed over as often as the weeds started, perhaps we should have starved the "critturs;" but as it was, they found support from the corn, and during the winter and spring passed through the change from the grub to the perfect or winged insect, and the next May emerged from the ground in swarms—deposited their eggs for another brood of worms, that will probably commit similar ravages. We shall be cautious in future about planting corn on land badly infested with these grubs.

Brine a Cure for Warts.

MESSRS. EDITORS—Having seen in the March number of THE CULTIVATOR, a recommendation of a method of curing warts on horses, which seems to me to be very cruel, I am induced to write my experience in curing them, believing that warts have one origin, and are the same, and the same remedy will cure, on whatever animal they may be found. It is some years since I saw a young man in Salem, Mass., the back of whose hands were literally covered with warts, many of them large and seedy, and very troublesome. I told him to go and wash his hands in the tide water in the floom, (he worked in a tide mill,) three times a day for one week, and to use plenty of soap, and in a few weeks his warts would be among the missing. He took my advice, and the warts left in about two months.

Cows often have warts on their udders. I have seen many, and some very bad, which I have cured by simply washing them after milking, for one or two weeks, with brine, which is my only remedy, and has never failed of a cure. S. P. *Markesan, Wis.*

The Golden Pheasant.

Of all the Pheasant species, the Golden is the rarest and most beautiful. The male bird, when in full plumage, which does not occur until their second year, measures nearly three feet in length, including his tail, which alone forms about two-thirds. The feathers of the fore part of the head are very long, silky, and of a bright yellow; and considerably overhang those of the hinder part, which are of a brilliant orange, marked or bordered with transverse rays, forming a kind of cape. The last are elongated and extend backward over the sides of the neck, which may be raised or depressed at will. A few minute hairs are scattered over the cheeks which are of a livid complexion. The feathers of the neck are tinged with a mixture of green and gold, and bordered with black; those of the back are steel blue, and the upper tail coverts are bright yellow, the latter terminating in a crimson border. Breast and under parts deep crimson. Wings brown, scapulars dark blue, legs dark color. The long tail feathers are brown with small darker transverse bars.

These magnificent birds are natives of China, and it was warmly maintained by Buffon, in accordance of his theory of the degeneration of animals, that they were merely a variety of the common pheasant, which had assumed a more splendid plumage, in consequence of the superior fineness of the climate in which they dwelt. Unfortunately for this hypothesis, the common pheasant is also widely spread throughout the same region, in which it preserves all the character by which it is distinguished in Europe, and never produces in its wild state a mixed breed with its supposed variety. No naturalist since Buffon has imagined such transformation possible.

The specimen from which our figure was taken, was bred at Springside, and is now running in the poultry yard with the fowls. They are a restless and timid bird. Unlike most other birds, they are very abusive and savage to their mates, at the time of nidification; they tease and peck the head of the female bare to the skull, which often proves fatal, as it did in our case; the hen died.

Mr. John Giles, who has been very fortunate in rearing the Golden Pheasant, in a letter to the writer says: "We have found pheasants as easy to raise as chickens. We set the eggs under Bantam hens. When hatched, confine hen and young with boards ten inches high and ten feet square; the boards fitting close to the ground; in a day or two the young pheasants will get used to the note of the hen. Feed with hard boiled eggs chopped fine with lettuce. In a week or ten days give them coarse ground meal and lettuce chopped fine with it. Mix with milk."

Although the pheasant can be tamed and will feed with the poultry, yet an innate timidity prevents it from being thoroughly domesticated. Young pheasants, we are told, scamper off in terror if any unexpected intruder makes his appearance among them, although the remainder of the poultry remain perfectly unconcerned. C. N. Bement. *Springside.*

Good Yield of Milk.

The following is a statement of the milk from my cow "Fillpail," during the month of December last. She dropped her calf the 23d of October. She is seven years old, seven-eighths Durham. The milk during the 31 days weighed 1,002 pounds. I weighed one quart of the milk, which was two pounds six ounces. Allowing the milk to weigh alike, it would give 421 17-19th quarts, which is a little more than 13½ quarts daily. Her food was corn and oats ground, four quarts of which was given to her daily, with as much good rowen hay as she would eat.

I think the above is a good yield of milk, considering the season of the year in which the trial was made. Jas. Child. *Deerfield, Mass, Jan.* 22, 1859.

Rich Milk.

Messrs. Tucker & Son—Mr. C. W. Gilman of Pine Meadow, (New-Hartford,) Ct., is engaged in selling milk, and milks twelve or fourteen cows during summer and winter. He has in his dairy a small cow five years old, which dropped her calf in November. Her milk was observed to have a very rich appearance, and he had a curiosity to test its butter qualities. Accordingly her morning's "mess" was put in tin pans, and after standing some thirty-six hours, two pounds twelve ounces of cream was taken off and churned, or stirred into butter in a few minutes. The butter as it came from the churn weighed just two pounds, and when thoroughly worked, one pound fourteen ounces, of a quality equal to the best. The milk was not measured *before*, but after being skimmed, measured six quarts. Assuming it to be seven and half quarts when strained—which would probably not be far from it—this would be at the rate of a *pound of butter to four quarts of milk*—two and three quarter lbs. per day. She gives eleven quarts of milk per day. If any one has a cow that can produce more than a pound of butter to four quarts of milk, or if he can produce a *record* of one that has done it, he can "take the hat." Geo. W. Loomis. *Torrington, Ct., Dec.*, 1858.

To Prevent Cows from Kicking.

Messrs. Editors—Having had several kicking cows I have long been seeking for a preventive, and after having tried coaxing, whipping, strapping up the fore leg, and various other said-to-be remedies, none of them answering, I had at last concluded to feed a very fine heifer for the one fault only, when happening to mention the subject one day to an old farmer, he remarked that he never had any trouble with kicking cows as he had a very easy way of preventing them. I inquired of him his plan, when he gave me the following, (one that I have never seen in print,) and I send it to you hoping it may benefit many as it has me:

Take a rope or strap about three feet in length, and make a loop at one end, then carefully place the loop end around the hind legs just above the knee, run the other end through and draw the legs together as close as possible, then wrap the remainder of the rope around the part encircling the legs, and fasten. When properly adjusted it is impossible for a cow to kick. Grazier. *Chadds Ford, Delaware Co., Pa.*

Preserving Eggs.

Eds. of Country Gentleman—I have recently read a new and perhaps a good recipe for preserving eggs at least two years, so that at the end of that time they will be fit for either hatching or eating purposes. Sceptical as your humble servant has heretofore been on that subject, he must confess that it looks reasonable. It is extracted from a recent work published by Cooper & Vernon, of Media, Dealware Co., Pa., entitled "Game Fowls, by J. W. Cooper, M. D." The following is the recipe:

"Dissolve some gum shellac in a sufficient quantity of alcohol to make a thin varnish, give each egg a coat, and after they become thoroughly dry, pack them in bran or saw-dust, with their points downward, in such a manner that they cannot shift about. After you have kept them as long as you desire, wash the varnish carefully off, and they will be in the same state as they were before packing, ready either for eating or hatching."

This is from good authority, as the author of the work has been engaged for the last 30 years in raising nothing but the best game fowls, and as he has frequently imported eggs, he invariably directed them to be packed as above, and always had good success in hatching them, notwithstanding the time and distance of their journey. Dr. Cooper's game chickey at Media, is of itself a grea curiosity, and a credit to any poultry raiser. J. L. W. *Media, Pa.*

To Put a Candle Out Without an Extinguisher.—Hold your hand directly over it, and give a smart puff. If the wick is not so long as to need snuffing, it will do it "sure," with very little smoke. Try it on a lamp—I never have. w.

New Plan of Growing Potatoes.

MESSRS EDITORS—The past season I have discovered a new system of raising potatoes, (at least new to me,) and it in every way surpasses the one-eye system. I also think it will at once settle the question of opinion as regards small and large potatoes for planting—also whole or cut potatoes. This is no theoretical idea. It is gleaned from my practical experience, as I advance nothing that I do not first practice myself. When I first brought the one-eye system to notice, very few believed in it, and as to the after culture, it was also called "suicidal." However, after a trial, both the cutting and culture have proved all that I stated; and why not? I did it, and why not others? It was said that there was nothing to support the stem; that I then explained. This new system will fully prove that in my assertion I was correct. From the fact of the one-eye system and its management being cavilled at by very large and experienced potato growers, I thought I would try some other system to surpass it, and I think that I have succeeded. The result may seem strange, but what I state can be attested to by a large circle of your readers, as I called their attention particularly to them during the growth, and wished them to be particularly noticed, as I should refer to them after, at the same time not giving them any information as to how they were raised, merely telling them that they were neither cut nor whole potatoes that were planted—cuttings nor layers. Not knowing what the result might be, I did not wish the process to be known.

When opening our potato pits in April, 1858, they had sprouted from a quarter to two inches in length. Before selling, the sprouts are rubbed off, by passing through the hands, and thrown away. I left mine on the ground, and in stripping the pits I threw some mold over them, merely to keep the sun from drying them. In this way I left them for about a fortnight, in which time they had made nice fibrous roots, and produced stems—(the principal root elongated to a stem, and threw out leaves on the surface.) I should call it all a root, but Dr. Lindley, our highest authority in Botany, says, no matter how much a branch may resemble a root, when over ground it is a branch, even though it should neither produce leaves or stems.

Some of those sprouts were not more than a quarter of an inch in length, and some were two inches; all of them grew the same throughout the season. One thing I particularly noticed in the growth of these sprouts was, that their over ground stems were much stronger than from whole or cut potatoes; particularly on their coming to the surface, the difference was as visible as between a plant that is grown in the back of of a green-house, and one that is grown close to the glass. This fully satisfied me that it made no difference whether the cut potato was large or small. The number of roots also attached to those sprouts, were from time to time as numerous as they are to cut potatoes, being in fact a web of roots. This also proves that it is not, as some assert, from the tuber that the stem derives its nourishment—but as I have at all times stated, it was from the soil and roots that the potato stems made their growth, which was my reason in recommending cut potatoes to be always set with the eyes at bottom of the drill; having a greater number of roots they of course grow quicker. There was no care taken in removing the sprouts of the potatoes; they were merely passed through the hands and thrown one side as we proceeded in opening the pits.

I selected a piece of ground adjacent to where we had Prince Alberts, (the land being of the same quality,) so that the experiment should be equal. There was between a quarter and half an acre. I opened drills same as for setts, thirty inches apart, five to six inches deep, and dropped these sprouts, some that had leaves and some without, twelve inches apart, and covered with the plow. This proved that I was right in recommending covering the stems, which, when first brought to notice, it was asserted strongly by very large potato growers, that they would never see light again; but we are all likely to err. All their subsequent treatment was precisely the same as I practice with the one-eye-system.

Now for the result. In examining them at different periods during the season, they kept larger than the set potatoes, and they were not put out for three weeks after the others. However, this is easily accounted for, as of course after those sprouts were removed from the tuber and covered with mould, they commenced making roots. As to the number of tubers to each stem, they were nearly double what the cut potatoes were. This increase of yield is of course attributable to the greater number of roots, and they lay from the bottom of the drill to the surface. I will also state that our largest potatoes were of those that were *sprout-planted*. Further, that when we wanted to show or send away extra large potatoes, we took them from the sprout-planted. This is also known, as the persons to whom they were given, accompanied me to dig them; and they have gone round with me trying all the other potatoes, and acknowledged that those were the largest and a great many more of them to each stem. None could conceive how they were grown; all that could be seen was the original sprout, which turns almost as hard as locust, and from which no roots or stems grow but the one, no matter how long it may be; it looks as if it had been grafted, the growing stem to this hard sprout.

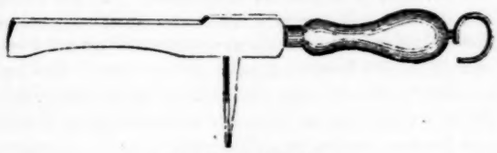
This experiment was not confined to one variety, as we had a great many sorts. We tried it on all of them with the same result. They flowered and had apples on same as sets. I cannot give the yield, as they were tried so much during the season, and so many taken off, that we could not ascertain the quantity.

The advantage of this system can be at once seen through. You can raise better potatoes without using your tubers, as of course every eye will produce a sprout, without injury to them, and some of them you can take two sets of sprouts off. If you have a large quantity, and save all your sprouts, you will have more than sufficient to plant. If you are not ready to plant them when taken off, you can lay them one side and throw a little earth over them, just sufficient to cover, when they will commence growing, which of course is equal to planting. You also save time in not having to cut your potatoes, which, when there is a large quantity to be planted, is no inconsiderable item. It takes no more time to drop those in the drill than it does sets—takes no more covering, yields better, and the most material point of any is, your crop ripens a great deal sooner; and if early ripening will save you from the potato disease, (which I doubt,) you accomplish it.

For early use, a few tubers may be kept in a warm cellar, and as they sprout, place them in boxes, and as they advance in growth, (after leafing,) keep covering with mould, as I stated in a former article on forcing potatoes. I cut some potatoes some time since, removing sprouts and placing as above; they were in leaf and over ground before the cut sets had broken at the eye, and all placed in one temperature.

The above plan, of course, will not at present be practiced. Some may doubt its working, but any person giving the potato and its habits a few moments thought, will at once see that it is correct; and all I wonder at is, that it has not been practiced or brought to notice before this. All can try it on a small scale, and prove for themselvas. In early planting, when the ground is wet and turns cakey, of course it will not do to bury those sprouts when in leaf, as it would bake and not let them through; in that case, let the leaves be on the surface. All that are skeptical, let

them for the present keep the tops to the surface. After once trying it, they will adopt the whole of the system. GERALD HOWATT. *Nanticoke, Luzerne Co., Pa.*



Grafting Knife.

MESSRS. EDITORS—I send you a rude draft of a good grafting-knife and chisel. Those who have used them, say that the advantage of this form is in having the instrument *balance* when the wedge is in the stock, so that it does not fall out. The hook is for hanging on a limb. D. A. A. N.

Shearing Red Cedar Hedges.

EDS. CO GENT—Be pleased to give directions for shearing a red cedar hedge, now six years planted, six feet high, and of dense growth, though never yet pruned. When will be the best time to prune, and what the most ornamental form to give the hedge, which stands on a terrace between my house and the village street? A. L. *Waverly, Pa.*

We would not recommend *shearing* a red cedar hedge, but simply shortening back the prominent shoots. Shearing, by cutting off all the shoots alike, produces a close growth at the surface, which shades the center, and makes bare stems. This is one reason why evenly sheared red cedar hedges do not look well. This remark does not apply to all evergreens—the hemlock, for instance, may be sheared closely, and retain dense foliage throughout.

The best time to prune evergreens is in summer, but they may be pruned very lightly now—the work should not be severely done at any time. In the treatment as applied to the red cedar, be careful to *thin back*, rather than merely to cut off the shoots, without regard to the interior. The accompanying figures show the difference between the effect of the three

Fig. 1. Fig. 2. Fig. 3.

different modes. Fig. 1 is a sheared tree, dense at the exterior and bare within. Fig. 2 is thinned back, admitting the light within, at the same time that it enables the operator to give any desired form or size to a tree, by gradual and successive excisions, and it does not exclude light from the interior. A very simple and good rule for thinning back, is to take off the prominent shoots *at a branch*, by cutting away clean the larger of the two. For instance, the branch, fig 3, may be shortened back at the fork *a*, or more slightly at *b*.

FRENCH HONEY.—One pound of white sugar; six eggs, leaving out the whites of two; the juice of three or four lemons, and the grated rind of two, and a quarter of a pound of butter. Stir over a slow fire until it is about the consistency of honey.—*Germantown Telegraph.*

Culture of Millet.

EDITORS CO. GENT.—There was much said a year ago or more, about the Hungarian grass, as yielding much valuable feed for stock. The seed in this vicinity was held at from four to six dollars per bushel. One of my neighbors had grown a crop the year before of the German millet, and pronounced it to be a paying crop, and offered to sell seed at one dollar per bushel. About the first of May I plowed a twenty-acre field, intending to plant it all with corn, but afterwards concluded to sow half the field with German millet seed. On the 10th June bought five and a half bushels of seed. By this time the heavy rains had beat down the ground, and run it together like a mortar bed, and the weeds, where the water did not stand all the time, had got a fine start. Ground too wet to plow again. I spread the seed, and *tried* to harrow thoroughly.

Bad as the season was, I got a paying crop, though most of it grew on less than half the ground sown—the remainder drowned out. I mowed it with a machine when the straw was a little yellow near the head, and the head had changed from a green to a yellow hue, and treated it in every way the same as I do hay. I harvested twenty-one loads and stacked it.

From what I had seen and heard of the Hungarian grass, as being excellent for dairying purposes, I concluded to keep my millet as it is called, until my cows commenced dropping their calves in the spring. About a month ago commenced to feed it. Previous to this I had fed timothy and clover about equal parts, over a month, and from ten to twenty ears of corn to each cow daily. On commencing with the millet, shut the door to the corn crib. My cows are now doing better with the millet alone, than when fed with tame hay and the corn, and making a superior article of butter.

I can see no difference between the Hungarian grass and German millet in regard to the shape of the seed, growth of the straw, or time of ripening—only that the millet has a partially flat head, and the grass, as it is termed by some, has a round head. I have carefully examined the two articles, and come to the conclusion that there is as much difference between them as there is in tweedle-dee and tweedle-dum. That the two grasses are in fact one and the same thing, varying only in the shape of the head, as different varieties of wheat vary. There are many names for wheat, but it is wheat after all. Now whether this grass should be called Hungarian grass, German millet, or Golden leaf, others may decide. *I shall call it good feed for cattle and horses.* C. G. TAYLOR. *Rock-Island Co., Illinois, April* 15, 1859.

Culture of Vetches.

EDS. CO. GENT.—Having seen an article in your paper some time ago, in reference to "Vetches," and having been asked by several agriculturists if vetches are as profitable in this country as in England, I have pleasure in informing you, for the benefit of my fellow agriculturists, that two years ago I imported a small quantity for trial, and I have pleasure in stating that the experiment has been far beyond my most sanguine expectations. I have tried it on all kinds of land, and it has done well on each, but I consider high land the best. Have sown it on a piece of rocky land, where there was not over four inches of soil, and the crop was abundant. I have mowed it three times in one season (upon common clay land,) for my horses. I have also cut it once for feed, and left the second growth for seed, which returned 20 bushels per acre.

I should also inform you that my cattle have been fed upon the vetch straw this winter, and I consider it much superior to feed with than any other kind of straw. A. WOOLFORD. *Lyn, Canada West.*

Thoughts on Farm Economy.

A cardinal virtue lies in the proper practice of economy. But this practice does not consist with mere stinting and saving—it requires wide and far-reaching views, and a generous and self-reliant spirit, to decide practical questions upon that just basis which secures the greatest measure of success. Thus there is an Economy of the Farm which only the judicious and thoughtful take into account, and which the wisest will not claim to fully comprehend. From the nature of the farmer's calling, with the wide and ever-varying range of influences acting upon it, the best instructed must necessarily remain in the dark upon many subjects which derange his plans and hinder his success.

That light and knowledge, having an important bearing on the true economy of Farming, still remains very generally unused, cannot be denied. We have thought, therefore, that it could not fail to benefit our readers to recall their attention briefly, to some thoughts on the methods of action by which progress is made and improvement accomplished, in the business of agriculture.

We have been economical in expending labor, and lavish in our outlay for land. True economy would indicate the contrary course as the proper one. Thorough and faithful work does not require a large area to exert itself upon—it glories in raising ninety bushels of corn upon one acre rather than on three, in its forty bushels of wheat rather than ten on another acre, and so of all its crops. It gives *much labor*—all, in fact, that is required to the best tillage and culture—on *all the land* from which it expects a harvest. It leaves no fertile farm a few inches below its own, all untilled and unemployed, but uses the soil *as far down* as the plants care to send their roots after supplies of food and moisture. It thus saves in the cost of the land, in taxes, in fencing, etc., and something in the labor of cultivation, and still produces far more profitable returns than the contrary course. The truth needs urging again and again, that it is better to economize in land than in labor—and many a farmer, if he would sell half his land, and put his whole force and capital into the cultivation of the remainder, would make money much faster than he now does.

True economy remembers that "the farmer's study is not to avoid labor, but to *make labor pay well*; and nothing is better established than that the labor of *saving manure*—of increasing its quantity and improving its quality—is the *most profitable* he can perform or employ." He believes this, because he does not expect growth without food, or reaping without sowing. Hence manure to keep up and add to the productive power of the soil, is constantly supplied, and thoughtful care in this direction is ever characteristic of the farmer who succeeds. Read the reports of premium farms, of large crops, and of profitable experiments in farming; and high manuring—feeding the land that it may produce abundantly—ever seems the key and the explanation of their success. A judicious expenditure in the collection, preservation, and application of manure, is always a paying investment And there are a thousand sources of fertility now neglected, which it is the province of farm economy to discover and secure. Let us give greater thought to this. We must feed, we again declare, if we expect growth from the soil—and the more generous the farmer, the greater his reward.

A mere glance at first cost cannot decide in many questions of true farm economy. In farm stock, for instance, it costs little more to raise, to any given age, a good animal than a bad one, while the former may be ten times as profitable as the latter. The good may cost more at first, but they are almost invariably valuable—while the cheaper are very often very poor to keep, and extremely hard to dispose of in market. The best breeds of animals—the best kinds of grain and roots—the best farm implements—the best varieties of fruit—and the best method of culture and disposal of crops—all these are earnestly sought by the truly economical cultivator of the soil. The subject is a very suggestive one, but the reader can take it up for himself, and follow it out practically in his own operations. We venture to assure him it will not be a losing business, even under any seeming failure, if it incites him to a better knowledge of the Economy of the Farm.

Clearing and Improving Marshes.

The subject of reclaiming swamps by surface and underdraining, has recently been alluded to in our columns, and we now propose to offer a few hints on the best method of clearing bogs and marshes, and of bringing the same into a permanently productive state. In most parts of the country such land is to be found in considerable quantities; hence we need no excuse for bringing the subject repeatedly before our readers.

Some few years since, an eastern Ag. Society offered several premiums, extending through a course of years, for experiments in clearing and improving marshes, and afterwards reported at some length thereon. It is interesting as showing the cost of bringing boggy marshes into cultivation, and also as presenting the views of practical and well informed men on the best means of accomplishing the same.

As to *clearing*, after a careful examination for several successive seasons, of the half-score of entries of lands, the committee came to the conclusion that the most effectual and thorough process on very wet soils, with a vegetation of small bushes and coarse grasses, was,

1st. To thoroughly drain the land, as far as it could be done by frequent ditches; and

2d. To float or cut off the whole surface of the ground, and piling it in winrows, let it dry, and then burn the whole to ashes.

This method, taking all things into account, they believed to be more economical than that generally practiced, of cutting off the bogs and brush, and then subduing the coarse vegetation by frequent plowings and harrowings. It was found exceedingly difficult to reclaim the soil from its original products by the latter process. By paring and burning, on the contrary, the coarser materials of the land were at once reduced by fire, and afforded a valuable and much needed amendment, in their abundant ashes. The surface, with slightly plowing or thoroughly harrowing, was much earlier prepared for a crop than by the other method, gaining one or two years out of three or four, in the use and production of the land, over that of subduing by the plow.

In a number of examples given, the *cost* of clearing and thoroughly subduing by this process was about $20 per acre. The crops for three years paid all expenses and more, and the land would remain equally productive for a long time, with proper treatment.

If a marsh has much depth of muck and cannot be drained *thoroughly*, we find that after a few years it will settle down nearer the water line, and in the moister spots wild grasses will displace the cultivated ones. If an outlet can be had, the most efficient remedy will be to deepen the drains, plow up and reseed to grass, and if at the same time, a top-dressing of sandy loam be applied, the results will be more satisfactory. The grass will have a better character than on muck alone, and will be less likely to become "run out" by coarser herbage.

No doubt many of our farming readers have had experience in clearing marshes, the relation of which would encourage others to engage in this work of improvement. We hope that whenever their leisure allows, they will favor us with articles on this and other subjects of interest.

Market Day—North Andover, Mass.

Having given some account of the first Market Day held in Essex county under the auspices of the County Agricultural Society, it may not be wholly uninteresting to the readers of the Country Gentleman and Cultivator to be furnished with a brief account of the second, which was celebrated on Tuesday, the 17th inst. The place of meeting was well chosen, the show of stock, produce, and farm implements and machines good, and the attendance of farmers quite large. The sales by auction and otherwise, as numerous as could have been reasonably expected. The results of the day, like those at South Danvers a fortnight since, are decidedly favorable, and therefore encouraging to the friends of this new enterprise.

As the reader is less interested in the details of a local matter of this kind than in the system and its prospective and general utility, it is proposed to present some of the benefits to be derived from the inauguration of market days by farmers. Mr. R. S. Fay, Secretary of the old "Massachusetts Society for the Promotion of Agriculture," is really entitled to the honor of introducing this new order of things. Having lived in England, where Market Fairs have been in successful operation for many years, and observing their utility, he was led to advocate their trial here,—maintaining that the art of selling well is quite as essential to ultimate success in farming, as that of producing well; also, that time is money, much of which is wasted in prospecting for buying and selling under the old way of doing this business. To economize time, he proposes that market days shall be holden over the State under the direction of the County Agricultural Societies, so instituted as to occur annually. This being done, a person desirous of buying, selling or exchanging animals, farm produce, &c., instead of spending several days in riding about as now done, may resort to the place where a market day is holden and there do his business.

With regard to domesticated animals, they will be on exhibition. Concerning the cereals, grains, tubers, roots, fruits, &c., they may be sold by samples. For example, a farmer has wheat, potatoes, onions, apples, or other products for sale, all he need do is to carry a sample or samples, sell what he desires, and deliver whenever the party purchasing orders it. This was done at South Danvers. A man sold a hundred bushels of potatoes for seed, from a sample on exhibition.

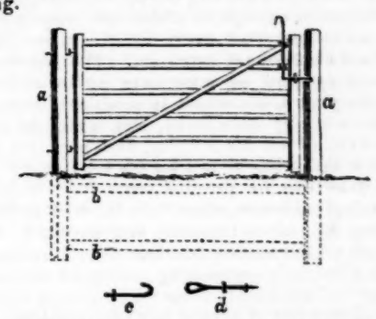
Another advantage is, that farmers are brought together more frequently, "and as iron sharpeneth iron, so a man sharpeneth the countenance of his friend," says an old oriental writer. Farmers cannot thus meet and traffic, without returning to their homes and labor wiser and better farmers. Less time is really consumed, and more business accomplished, and better done too.

It is hoped therefore, that the farmers in other States will give this subject its merited consideration and a fair trial. Something similar is already in operation in Kentucky, and has been for several years. It would be interesting to the readers of the Country Gentleman, if some one acquainted with the working of market days in that State, would give an account of them. What has been, and what is doing, are quite as important to the inquirer after knowledge, as to be told what should be done. The past, the present, and the future, are all important elements in what regards permanent improvement, whether in things abstract or concrete, subjective or objective.

The weather continues cool,—farmers busy putting in the seed, with a prospect of a ready market and remunerative prices for all they can produce. Columella.

Farm Gates.

Your correspondent, W. C. Pinkham, gives a description of a farm gate, which is in some respects good. I herewith give you a sketch of my mode of putting in gate posts and hanging gates, which prevents their sagging.



a a are the gate posts of any desired size, with (*b b*) transverse pieces mortised into them, one at the surface of the ground, the other at the base of the posts, or within a few inches of it. This makes it impossible for the posts to approach or separate from each other. It is requisite, instead of post holes, to excavate a trench two and a-half feet deep, and a foot or more wide, as may be necessary, and the length of the frame, to set it in.

I have not specified any particular size for posts, as that depends upon the size of gate, materials used, taste of maker, &c. The cross pieces may be as wide, but only half the thickness of the posts.

The gate made as represented—end pieces, and top and bottom pieces of 3 by 4 scantling—cross bars and stay pieces of inch plank, 4 inches wide. Hinges made as represented by *c*, for the post, and *d* for gate, each bolt having a nut on it to screw it up tight.

A common iron latch, with handle reaching above the gate, and a catch placed in a notch cut out of the gate post, allows the gate to swing open on either side. The arrangement is substantial, that in my opinion being one of the principal requisites in farm gates. The gate is not heavy and swings easily. H. Hinkley. *Prairie Cottage, Ill.*

Clean Milking.

It is a matter of great importance that the milk should all be drawn from the cow's udder. Careful experiments made in England show, according to a report recently published, that "the quantity of cream obtained from the last drawn cup, from most cows, exceeds that of the first in a proportion of twelve to one." Thus a person who carelessly leaves but a teacup full of milk undrawn, loses in reality about as much cream as would be afforded by four or six pints at the beginning; and loses, too, that part of the cream which gives the richness and high flavor to the butter.

How Not to Do It.

MESSRS. EDITORS—I was very much impressed with some truths contained in an editorial article of the COUNTRY GENTLEMAN of March 10, on the discouragements incidental to the occupation of a farmer. Your suggestion, as to the space improperly farmed over, is the very pith and marrow of the whole affair. I am perfectly convinced, from a long course of observation and experience, that it is the one great cause of the deterioration of land, and of the unprofitable results of years of hard labor. It is also one of the great causes which disgust our young men with the life of a farmer. How common it is to hear it said that farming does not pay, and that capital invested in land never yields more than 3 or 4 per cent. I will, however, at some future time, endeavor to expose the fallacy of that assertion. But that farms do not yield what they ought to, and that farmers do not realize as much as I think they should, is an incontestible fact. To see a thin, sickly looking crop of grain, as far as the eye can reach, a large lot of little puny cornstalks, and a field of potatoes whose tops are struggling with the giant weeds, and from whose hills are dug out little pebble stones and pigeon's eggs, is enough to dishearten any one. The grain must be harvested, every hill of corn and potatoes must receive individual attention. The whole of this vast territory must be gone over again and again. The entire year is consumed in producing some large crops, superficially considered, and when the farmer has disposed of all his surplus, and paid his honest debts, how much has he left for his next year's operations? How can he procure some fruit trees, some labor-saving machines, some little luxuries in the way of berries, &c., about his house and garden? I have been much on the continent of Europe, and in England, and it is absolutely astonishing to observe the capacity of an acre of ground, if properly and carefully cultivated. Every foot of ground is made available. Look at our market gardens near our large cities, and see what wonders they produce. Will any one pretend that the land is better? It is labor and capital invested in a few acres, prudently managed, and diligently cultivated. Many farmers will at once conclude that they have no such advantages of position. But in these days of rapid communication with our large cities, there are few farmers but have great facilities, if they only choose to avail themselves of them.

We cannot, in this section of the country, compete with western farmers in raising grain. Their lands produce almost spontaneously; their first cost was but a trifle; their facilities for sending produce to our seaboard have been so multiplied, that they have an incalculable advantage over us here. I am convinced that farmers in this section must change their whole system—not to neglect their grain crops, but to pay more attention to other things. We must here take advantage of our proximity to the large cities, and must endeavor to administer to their necessities and luxuries—the latter particularly. Who that will read this article, cannot recall to mind some friend or neighbor who has cultivated a few acres very highly, raising fruit, berries, onions, &c., and has been doing a much larger and more lucrative business than many farmers with ten times his quantity of land. I could enumerate several in my own immediate neighborhood, who are only cultivating 28 to 30 acres, and who I am confident, are doing a larger business and making more money than any 200 acre farmer in the county. It seems to be peculiar only to us agriculturists, to lay out more work for the year than we can possibly accomplish. The whole farm must be worked over—that large lot must be planted, another sowed, and all these, with the constant interruption of fence making, and those hundred little indispensable jobs which are always so unpleasant, and so absurdly introducing themselves to your notice, that we never do really well what we have to do. The corn must be run through with great rapidity, because the potatoes are suffering; the potatoes must be scraped over in 2.40, because the rascally weeds are choking those young onions to death; so that something is always suffering from want of attention, and so it goes until the frost brings us up with the work half finished. Exhausted, we take our pipe and contemplate the past laborious season, and find how little absolutely has been accomplished. I am determined to remedy this, and perhaps at some future time I may tell your readers how I propose "to do it." In the first place let us exhaust the present subject of "How not to do it." C. PUMPKIN. *Columbia Co., N. Y.*

Culture of Millet for Hay and Seed.

EDS. CO. GENT.—In your paper of April 14th, I see a communication from A. B. DICKINSON, on Hungarian Grass and Millet, in all of which, except as regards the value of millet hay, I fully concur. The value of millet hay depends very much on soil, cultivation, and time of harvesting. Whether it is worth more than other hay, every one can judge for himself. Whoever wishes to raise it, will feel himself at least fully remunerated, if he will follow the following directions:

FOR HAY.—Take a good piece of corn land, unmanured—break it thoroughly, and pulverize the soil very finely. Sow two bushels of good seed per acre, and cover with a very light brush. Cut it just as it begins to ripen — leave in winrows one day—then haul to the barn.

FOR SEED.—Take a piece of very rich land—break it well—pulverize finely—lay it off one way three and a half feet wide with shallow furrows—drop the seed in the rows as thin as possible—cover by running a light brush crosswise of the furrows. When it comes up, thin out to one stalk for about every two inches—cultivate same as corn. When ripe, cut the heads off, and clean the same as wheat. For hay, sow first of June or last of May. For seed, plant first of May. B. J. T. *Pelham, Tenn.*

Causes of Fertility of the Soil.

If the sand soil in Ohio is finer than the soil in the Eastern States, so it gives a greater area to the air and water to act upon it for dissolving, and so much more the mineral elements will be ready for the nourishment of the plants. Lies the Ohio soil flatter or is it moister, so will this dissolving act be increased a great deal, and the plants have continual nourishment. The finer sand excludes the air more than the coarser, and prevents the dryness better, and great dryness stops the chemical activity of the soil too much.

The most sterile sand gives the best meadow by abundant and judicious irrigation. Germany can show a hundred thousand acres of their irrigated meadows, where a few years ago the soil blew around with the winds. E. S. *High Place, Ill.*

Cure for Scratches.

H. PAYNE, of Lockport, communicates the following remedy for scratches in horses, which we have seen tried with good effect:

"When the horse comes in at night, his legs should be washed clean and rubbed as dry as may be; then apply good vinegar, rubbing it well to the skin. Two applications a day are sufficient. I have always found it a sure preventive and a certain cure. If the legs have become cracked and sore, apply the vinegar freely, and add a piece of copperas the size of a common hickory nut, to a quart of vinegar."

Indian Corn—"Mixed Sorts."

There are a score or more of distinct and valuable varieties of Indian corn, all probably originating in the Wild or Rocky Mountain corn, in which each kernel has a husk or envelope answering to the chaff of wheat, etc. These varieties intermix very readily—it is rare that we find them perfectly pure, and often these mixtures acquire a name and fame of their own. At the last State Fair, in a discussion on corn culture, several of the speakers in answer to the question, "What kind do you cultivate?" replied, "I have a mixed sort;" and it seemed to be the general opinion among those present at the meeting, that these "mixed sorts" gave a better yield than any variety kept pure. We referred to the subject at the time, (Co. Gent., Oct. 28, 1858,) hoping to call out further information on the subject from those who had experimented in the matter. No response having been elicited, we now repeat the invitation, and add what we have been able to glean from different sources on the same.

One of the speakers at the discussion above referred to, preferred to mix his seed; and had planted a mixture of the Dutton. White Flint, Eight-rowed Yellow, and Red Streak. His crops were large and sound.

We have seen a fine sample of corn—a mixture of the White Flint and large Eight-rowed Yellow; the ears were about fourteen inches long, and the kernels of extra size. We are inclined to think that the eight-rowed sorts will intermix most kindly, and that we may hasten the period of ripening by planting a slightly earlier variety with the later ones.

Some ten years ago, a Vermont farmer planted the Eight-rowed Yellow, Eight-rowed White, and Red Blaze, (also eight-rowed,) side by side. From the ears in which the kinds were most evenly mixed, he planted for his next year's crop, and the third year, of the seed produced, grew over 114 bushels of shelled corn per acre. The corn at this time presented but few white kernels, but was blazed at the top—the ears long, with small cob. Another farmer mixed the Eight-rowed Yellow and the Brown corn, (King Philip,) producing an excellent crop—the ears differing in appearance somewhat from either variety.

In a former volume of the Cultivator, (1848, p. 252,) a Rhode Island farmer states that he cultivated for five years the "White Cap corn," of medium size, and deep plowing and manuring caused it to grow larger and later. He also tried the "Yellow Cap corn," but found the White to have less weight of cob and more fodder than the Yellow. He then tried a mixture of the two, equal parts, and found the result in its favor. The product was heavier than either White or Yellow, by three-fourths of a pound per bushel.

We mean to try a few experiments with the "mixed sorts" the present year—but have heretofore sought to keep them as distinct as possible. Our trials of different kinds have been for the most part, for the purpose of adapting the variety to the soil and time of planting, taking also the character of the soil for fertility into consideration.

To Make Cows "Give Down."—I noticed in your March number, a way to make cows give down milk when they hold it up. I think I can tell you a better one. It is to put a bag of meal, or any other weight, on her back. This is almost always a sure way.

Portsmouth.

The Verbena.

There is no need of saying anything in praise of this most beautiful flower. Everybody grows it, and admires it. It should be grown in masses.

As soon as all danger from frost is past they may be set out. In selecting plants, it is preferable to choose those which are robust, even though they may be small, in preference to larger, spindling ones. In planting them, leave more room for the scarlet varieties to spread than the other colors, as they are more vigorous in general.

The habit of the Verbena is naturally trailing, taking root wherever the stems touch the ground. It is well to keep the stems lying on the ground by means of small wooden pegs. These may be expeditiously made by sawing a shingle into lengths of about four inches, and splitting these into pieces a little larger than a common match. Run one of these obliquely into the ground on each side of the stem near a joint, so that the ends shall just meet over the stem, which is thus confined securely.

There is hardly a flower in cultivation which blooms for so great a length of time. Beginning in the open air in May, they continue to send out new shoots which bloom profusely until severe frosts. They may be raised from seed, but in order to have an early bloom, they should be started in a hot-bed. It is better to procure the plants from a green-house, when practicable, than to raise them yourself.

The Verbena is a difficult plant to keep in the house in winter. It is hardly worth while to attempt it, as the plants may be bought so cheaply in the spring that it does not *pay* for the trouble. G. B. H.

Messrs. Editors—I will give you a few receipes, which I can testify as being No. 1, having repeatedly tried them, and not in one instance found an improvement necessary. M. H. K.

Wine Jelly.

One pint of cold water to be poured on one paper of gelatine. Let it stand an hour—then add one and a quarter pounds of white sugar—the rind of one lemon, and the juice of three—one pint of wine, (any kind will answer)—one quart of boiling water. Strain it, and set it away to cool and harden.

Steamed Flour Pudding.

One pint of flour--one pint of milk, and four eggs, and a little salt. Steam it one and a half hours.

Indian Mush Cakes.

Take one quart of water, and when boiling thicken it with meal. Have it about as thick as you would mush. When a little cool, add two table spoonfuls of melted butter, two of yeast, and enough flour to make it about as stiff as bread dough. Let it stand over night. In the morning, add enough flour to roll out in little cakes, and bake on the griddle.

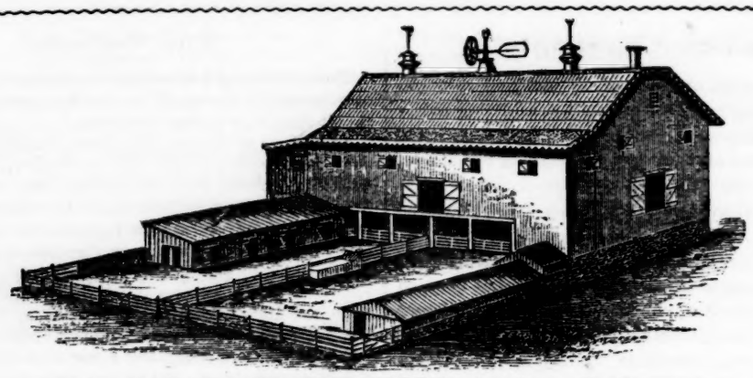
Green Tomatoes.

To one gallon of tomatoes, chopped fine and pressed as dry as possible, add three red peppers and three onions, also chopped—one pint of grated horse radish—a half a pint of black mustard seed—two table spoonfuls of ground cloves, one of ground alspice, and one of black pepper. Put in a jar and cover with cold vinegar. You can leave out the onions if you choose. I do, if I expect to see any of my friends during the year.

To Destroy Bee-Worms.

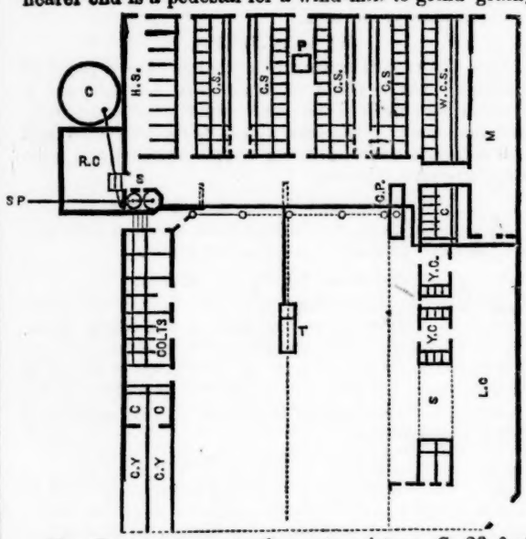
Take boards or shingles, and cut games or notches crosswise, nearly a quarter of an inch wide and deep; then raise your hives on blocks half an inch, and lay your shingles on each side of the hive, notches down. The worms will hide from the bees in the notches. Take up the shingles every morning and cut the worms with a knife. P. L. Evans. *Richburg, Allegany Co., N. Y.*

Red clover is generally sown in England with barley, without mixture of other grass.



Geo. G. Lobdell's Barn, Wilmington, Delaware.

This large barn is remarkable for its *completeness*. The proprietor would have made it a "double-deck barn," had the ground admitted. The perspective view shows its general appearance and structure. It is 120 feet long and 48 feet wide. The wing in front is of the same length, and 16 feet wide. The stone wall for the basement is 10 feet high, and 22 inches thick. The height from the threshing-floor to eaves is 18 feet. The flat part of the roof is gravelled. The barn-yard is paved with smooth round stone, and cleaned up every week, or oftener if necessary, and the manure put in the manure cellar. A carriage-house and work-shop is attached to the further end, 18 by 24 feet, two stories. The lower 9 feet, and upper 7 feet. The upper is used for a store-room and tool-house. Ventilators, 5 feet square at base, are seen on the top, and a wind-mill with 12-feet wheel, six sails, self-governor. At the nearer end is a pedestal for a wind-mill to grind grain.



THE PLAN represents the water cistern, C, 20 feet diameter, 8 feet deep; it receives all the rain water from the barn roof, and the surplus from the house and shed roofs, and supplies water for stock. R. C. is the root cellar, 16 by 22 feet, 9-feet story, underground H. S. are horse stalls, 5 feet wide, 14 feet long, including passage way. There are ventilators at head of stalls, horizontal; and in front of them are entries, 5½ feet wide. The cow stables are marked C. S., and the mangers in the cow stalls are 3 feet deep, 3½ feet wide —some 4 feet wide; the stalls 6 feet long from liquor trough to mangers; liquor conductors behind them, convey all the liquid manure from the stalls to manure cellar, and are 1 foot wide.

P. are the wind mill and hand pumps, placed in the well, and both, if desired, will force the water to the house, in the attic of which is a tank containing 1300 gallons. The surplus, if any, runs back to the cistern, C.

W. C. S. Working cattle stalls, 4 feet wide by 14 feet long, including passage-way.

C. Stalls for calves that are weaned.

S. Enclosed shed, 13 by 27 feet.

L. C. Shed for loose cattle, 21 by 76 feet.

M. Manure cellar, 18 by 70 feet, and 5 feet deep below the surface, and 10 feet above, enclosed by a wall (22 inches) of stone laid in hydraulic cement; the bottom is laid with cinders, which are grouted with, and have a coat of hydraulic cement on top—being perfectly water-tight, and having a floor which is even with the ground on the outside.

All the manure from the stalls, or that drops in the yards is regularly taken to the manure cellar, the horse and cow manure being mixed well together. Then, beginning at one or the other end of the cellar, the manure is composted and wet with the liquor which is in the bottom of the cellar, there being a floor on which the solid manure is placed; each separate layer of manure having ground plaster sprinkled on it, and on the top layer a quantity of clay soil or muck. When one end is full, we commence at the other end and treat it in the same way, leaving the middle free to work in. Before the second end is filled to the middle, the first compost is fit to haul out, being perfectly rotten.

Y. C. Stalls for young cattle.

C. P. Calf pen for sucking calves.

C. Y. Yards for young weaned calves. An iron pipe runs across the yard under ground, into which the conductors or spouts from the barn, sheds, &c., convey the water, and connect with the cistern, C, and a lead pipe leads from this pipe to the water-trough, T, which is made of brick, laid in hydraulic cement, having in one end a division, separating the part in which the lead pipe is introduced. Attached to the lead pipe is a cock, operated on by a copper ball or float, which causes the cock to open or close as the water lowers or raises in the trough. The connection between the two parts of the trough is at the bottom of the trough. Around the outside of the trough are placed boards, leaving about 4 inches space, which is filled with charcoal or sawdust. The end in which the water is introduced, is enclosed in a wooden box, made higher than the trough, with double lids, one above the other, with about 2 feet space between, which affords access to the cock, and prevents the water from flowing. The trough being in a warm situation on the south side of the barn, does not freeze readily. When the weather is very severe, there are lids to cover over the parts to which the cattle have access, and at night straw is put on in addition.

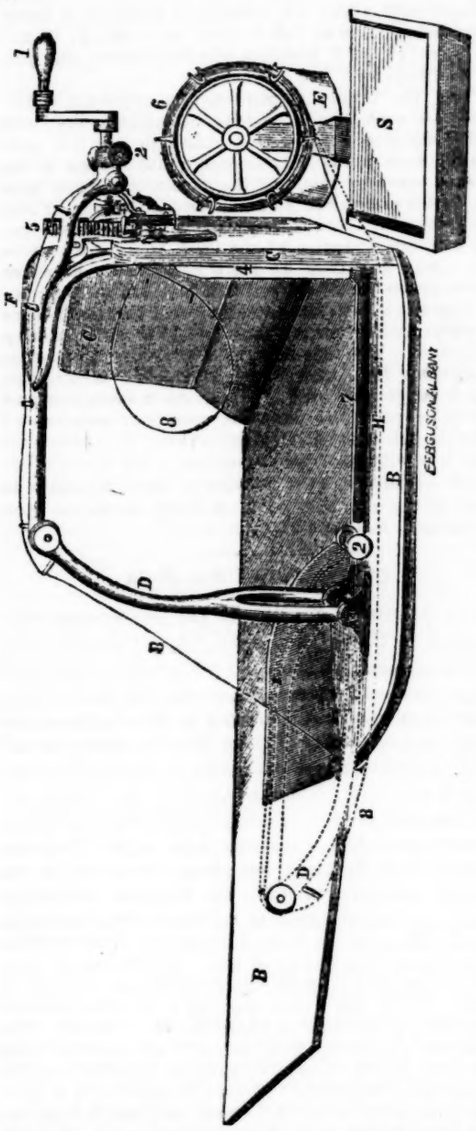
S. are tubs, holding 50 bushels each, in which food of any kind is steamed. The steam is introduced at the center, through a pipe made like a funnel—the large part being put down, and not extending to the bottom of the tub by 2 inches. Lids are fitted to the tubs for the purpose of retaining the steam.

S. P. is the steam pipe which conducts the steam from the boiler. This boiler is in the cellar of the dwelling-house occupied by Mr. L., and furnishes steam to heat the same.

Sherwood's Grain Binder.

The reaping machine, as now constructed and thoroughly proved, accomplishes a most important purpose by applying horse labor at a critical period with the farmer. Its economy does not depend so much on its greater cheapness, as on the *command* it gives the farmer of his operations. He sweeps over a ten acre field in a single day, and escapes perhaps a long storm, and avoids with certainty the shelling and scattering of the grain incident to deferred harvesting.

But the mere act of *cutting* the grain accomplishes only a part of the labor. Raking and binding still remains as a heavy task. Self-raking machines, if perfect, would save but one additional hand; but four or five binders are required besides, to follow a good machine. Even the perfection of self-rakers remains a problem not yet satisfactorily solved, and some which were highly recommended at first, have fallen into disuse.



We know of but one attempt to construct a binding machine that promises to succeed. This is the invention of ALLEN SHERWOOD of Auburn, N. Y. We noticed this machine briefly last autumn, in our account of the implements at the Syracuse State Fair. We have recently given it a careful examination, as much improved by the inventor since that time. The only satisfactory proof of its value must be its thorough and extensive trial in the harvest field; and for this purpose the manufacturers are making about twenty-five machines for experimenting during the ensuing harvest, deferring until after that period, the offer of any for sale. The above figure is a correct representation of the binder. It may be attached to any reaping machine, its whole weight, wood and iron, being about 60 pounds. The price will probably be $25. Its leading peculiarity is the use of *annealed wire* for bands. This is first wound on the reel E, from which it passes in uncoiling across the face of the platform H, and then back by the moveable elbow D, to F, forming, when drawn up, the loop 8. This loop is quickly and easily made by a single movement of the hand, as soon as the gavel is thrown upon it by the raker. One revolution of the winch 1, twists the wire together and cuts it off, completing the sheaf, which drops off behind. It will be perceived that three hands are thus required to man each reaper, a driver, raker and binder. An active boy twelve years old, will perform the office of the latter. These three hands, it will be perceived, with the assistance of a good team, will cut, rake and bind, ten acres of grain in a day, provided the machine works well after a full trial. We have little doubt of its ultimate success, although as is always the case, many suggestions for improvement will occur while it is under trial. The wire can be obtained at wholesale for 12½ cents per pound; and we ascertained by weighing the wire required for a single sheaf, that one pound would bind 190 sheaves, or about a pound and a quarter per acre on an average. Wire a little larger is however preferred, costing about 20 cents per acre. This wire cannot be used again for this purpose; but by being tripled and twisted, would make good fence ties, and be useful for other purposes. In many instances, its cost would be saved by avoiding the shelling of the grain from the bands alone; and it would repay many times its cost by the saving of labor.

Curing Green Corn for Winter Use.

ON TOP OF THE ROCKY MOUNTAINS,
NEW MEXICO, *Feb.* 8, 1859.

EDITORS CO. GENT.—In your paper of December 30, 1858, is an article headed "Reader will you Write for us?" In that article you enumerate 14 headings for articles on the corn crop. Allow me to add one more, and give you the Navajoe mode of carrying it out, as discovered during the late war. I refer to the "method of curing green corn for winter use." These Indians cure it as follows, and I have seen no better mode.

When the green corn is fit for use, a pit is dug, from two to three feet in diameter at top, and gradually enlarging, is at bottom, say 5 feet down, from 6 to 8 feet in diameter. A large fire is then built near by, on which stones are heated, and when red hot, the stones and live coals are shovelled into the bottom of the pit, and sprinkled over with fine loose dirt. The corn is then thrown in with the husks on, just as it is pulled from the stalk, until the pit is nearly full.

Then comes a thin layer of loose dirt, then hot stones, (enough to close the pit,) and the whole covered with earth, to retain the heat. When the whole cools off, (which takes several days,) the pit is opened and the corn is found to be most delightfully cooked. When cool, the husks are stripped off and the corn dried in the sun—when thoroughly dried, the corn is shelled off easily, and is then packed away in bags for use. This, although the mode adopted by *savages*, cures green corn better than any method I have seen practiced by *civilized* man. If you deem it worthy of insertion in the Country Gentleman, you can insert it; if not, I presume no harm is done by MOUNTAINEER.

Want of System.

Said a gentleman to us not long since, "let me tell you how to accomplish a great deal in one day. In the morning before you go down town, take a slip of paper, and put down in a brief way, all that you wish done; every errand that you have got to make, all business that has got to be transacted. This done and you can proceed. Take it along in regular order; do this; well this is done; the next, that is accomplished; and so on through the list."

This method, for a business man, would, no doubt, be a good one. Farmers cannot so well practice it in their various operations, but the principle is the same. System is what is wanted, and system in the management and work of a farm, is of the greatest importance. The farmer's time is as valuable to him as the professional man's time is to him; it is as important that every operation should be performed in the best manner, and with the utmost despatch; it is as much for the farmer's interest to finish this job immediately, that he may begin another that is pressing upon him, as it is that the merchant should economize *his* time in the performance of his various business duties.

Some farmers always manifest system in all they do; every operation, even the most trivial and common place, is executed with regularity, promptness and order. And it is truly surprising to see how much more a man can achieve in the world, and how much more he can perform in a single day, if he goes about his occupation early in the morning and with a clear view of what is before him; everything to be done is marked out in his mind, the work of the day is clear; he takes no useless steps, he does not begin one job and leaving it half performed go about another. He exhibits system, order and precision. We say how much more such a man can accomplish than one who goes about his work with no idea of what he is going to do, nor how he is going to do it. Yet it is not uncommon to see such farmers. They get up in the morning and do not know hardly what it is best to do; don't know what the weather will be through the day; decide to do this, begin, change their mind, and conclude to do something else. So an hour passes by—these golden hours of the morning are very apt to slip away unimproved—and the farmer has decided what to do. He decides to furrow out for corn; gets into the field and finds that one of the traces of the harness is broken and must be mended before it can be used. One goes to the house to fix it, the other with the horse remains idle. Another hour slips away, soon another; not much done, but lo! it is noon! What can such a farmer expect to accomplish? His fences are always down, his cattle are always ranging the highways, his tools are always out of repair, and he is always behind with his work. What is the reason of all this? when his next door neighbor, with a larger farm, less help, and with easier work does double the amount of labor. Want of system, want of plan, want of a little calculation and forethought.

Men who have achieved the most—who have done the most in this world for the benefit of their fellow-beings—have been men of order and system. Whatever a man's occupation is, he can accomplish but little without a thorough and comprehensive, a complete and practical *system!* And even these small matters in every-day life—those things which take up time and yet don't seem to amount to much—can be so performed as to leave much spare time for more serious and active pursuits. On a farm these little matters are numerous. Now one can tread round all day in a half-bushel basket, and when night comes, nothing can be seen to show that he has accomplished the least amount of good. It is very often said by men who are engaged in farming, "I look rather cluttered up round here; but I intend to take a day by-and-by and clear up." We have heard just such remarks made, and have, in many instances, seen the result of them. They put off the day in which they are to "chore round,"—put it off day after day; little things are to be done; "Well, one of these days,"—thus they accumulate. These little easy matters, become large and important duties. Now let us apply *system.* If one thing wants doing, secure the first half hour of spare time, and *do it.* So with the next, and the next, and so on. Instead of allowing a lot of little jobs to increase until there are enough of them for a day's work, do each one as fast as they want doing. Time will be saved, your premises will look better, and you will feel happier.

True, the farmer cannot—as the merchant can—note down each item to be done through the day, and in the morning begin and go through the list, performing each job in regular order; but system is the same in every pursuit, and the farmer can apply system to his profession, as much as the lawyer or the merchant can. Now this application of order and system to every operation of the farm, is what we advocate. Now and then we see a farmer who practices this in every job of work. It is natural to him; we see how much better he gets along, and how much more he performs than his neighbor, who has no regularity or system. Why not then, as we see the vast benefit resulting from the manner in which a skillful farmer manages his work, appropriate it ourselves and put those principles into use upon our own farms? Even though it be not so much a thing of nature with us as it is with him, yet the course is one of such immense advantage, that we should spare no pains to make it the rule and guide of every operation upon our farms. Are we doing this now?

Cultivation of Pea Nuts.

EDS CO. GENT.—Recently on the cars between Wilmington, N C., and Charleston, I heard one man of an intelligent look, ask another "what kind of tree bore the ground pea," (*Arachis tuberosa,*) which is cultivated extensively in the vicinity of Wilmington, there being from one hundred and fifty thousand, to two hundred thousand bushels of pea nuts exported annually from that city. The sandy soils of that section are well adapted to their growth, a loose sand producing greater crops than a rich vegetable mold. They are planted in drills 3 or 4 feet apart. Formerly it was thought necessary to have the blossoms covered in order to produce good yields, but observation has taught that it will cover itself by shooting the fruit portions of its flower into the loose soil. It is a curious provision of nature, a knowledge of which now saves much labor. In the fall a wide scraping plow is run beneath the vines, to the roots of which the peas adhere. The peas are picked by men, women, and children, from the roots, during the winter, and the vines fed to cattle. About forty bushels to the acre is considered a good yield, the price of which does not vary much from one dollar per bushel in the Wilmington market. The pea nut belongs to the natural order Leguminosæ of Botanists. S. B. BUCKLEY.

Mr. Taber's Cattle Sale.

MESSRS. EDITORS—Mr. TABER'S sale has just closed. There was a very fair attendance of persons, and many from abroad. Among those from our own State, were Messrs. KELLY, THORNE, BATHGATE, KETCHUM, BELDEN, GAZELEY, OLCOTT, ALLEN, D. B. HAIGHT, RATHBUN from Otsego Co.—Mr. LATHROP from South Hadley, and several others from Massachusetts and New-Hampshire. The day was very unfavorable, although the rain very fortunately was suspended during the sale, which commenced about two o'clock, in an open field. The stock was in fair condition, and many very promising animals. The prices, you will perceive, were not large; and perhaps it is safe to say that the prices were in every case, below what such animals would have brought under more favorable circumstances.

I give you the names of purchasers, where announced, in the order of the printed catalogue, although the sale commenced with the cows and heifers, and the last animal sold was the stock bull Highflyer, sired by Duke of Gloster, and a very fine animal. He was the only animal on which a bid was reserved—he was started at $450.

BULLS.

Messenger, 3 years old, Mr. Halleck, Ulster Co.,	$90
Generic, 1 year old, W. A. White, Dutchess Co.,	76
Hyperion, 1 year old, Mr. Rathbun, Otsego Co.,	91
Buccaneer, 2 years old, Mr. Thirsby,	90
Alaric, 1 year old, D. B. Haight, Dutchess Co.,	145
Attila, 1 year old, E. Griffen, Dutchess Co.,	58
*Comptroller, 1 year old, E. K. Taber, Dutchess Co.,	47
Plebeian, 1 year old, V. Halleck, Dutchess Co.,	65
Reefer, 9 mos., Henry Wolf, Dutchess Co.,	45
Highflyer, A. G. Wood, Mass.,	505
Ten Bulls, averaging $121.20,	$1202

COWS AND HEIFERS.

Gem, & calf, 5 yrs., S. N. Buffam, New-Hampshire,	$105
Aurelia, 9 yrs. old, D. B. Holcomb, Mass.,	100
Atalanta, 8 years old, D. B. Holcomb, Mass.,	100
Arezonia, 2 years old, Paoli Lathrop, Mass.,	100
Colona, 1 year old, M. J. Smith,	75
Autumn, 4 years old, R. S. Van Wyck	50
Laura 3d, and calf, 8 years old, Paoli Lathrop, Mass.,	140
Lauretta, 5 years old, Mr. White,	111
Lizzy, 4 years old, Judah Swift,	105
Calla, 6 years old, Abram Burton,	83
Jeanett, 5 years old, " "	86
Edith, 3 years old, Samuel Thorne, Thornedale,	100
Zillah, 2 years old, Abram Burton, Dutchess Co.,	100
Ziporah, 1 year old, Haight & Merritt, Dutchess Co.,	65
Zade, 2 years old, Z. K. Taber, Dutchess Co.,	80
Aurora, 14 years old, Gilbert Coffin, Dutchess Co.,	71
Luna, 5 years old, Paoli Lathrop, Mass.,	190
Dawn, 2 years old, Mr. ——, New-Hampshire,	110
Twilight, 1 yr. old, " " "	75
Starlight, 2 years old, M. J. Smith,	155
Twinkle, 1 year old, Paoli Lathrop, Mass.,	100
Althea, 6 years old, Sylvanus Willis,	220
Cuphea, 3 years old, " "	190
Erica, 2 years old, " "	225
24 Cows and Heifers, averaging $124,	$2736

Dover Plains, May 10.

A Cure for Scratches.

MESSRS. EDS.—Reading on page 236, vol. xiii, no. 15, Mr. Payne's remedy for scratches in horses, induces me to send the following receipt, which I have often seen tried with the most satisfactory results:

Procure some lamp oil, add a little white lead, and mix both together until the oil assumes a light straw color. When the horse comes in at night, his legs should be washed perfectly clean, and rubbed perfectly dry. Then apply the mixture, rubbing it well to the skin. Two or three applications are sufficient to effect a perfect cure, no matter how bad the case may be. JAMES OWEN. *Great Barrington, Mass.*

Oxen in Summer.

A tanner near us says he had several hides brought to him the first week in May, taken from working oxen which died in consequence of the extreme warm weather. They could not "stand the heat" under moderate exercise, it was said; if we knew all the circumstances of feed and care, perhaps we could give "the reason why." The proper treatment of working oxen is not as well understood as formerly—less use being made of them by the majority of farmers. We have thought it might be of service to some of your readers, to give the method of management in hot weather, pursued by a Western New-York farmer, as it seems to us particularly judidious.

His oxen are always kept in good condition, and in summer have a good clover pasture. He is careful to start them up at half past four in the morning, that they may go to feeding and fill themselves for their forenoon's work, by the time his chores are done, breakfast eaten, &c. At noon they are not allowed to drink until after feeding some, for the reason that if allowed to drink directly after unyoking, they will fill themselves so full as not to have any appetite for grass. They have two hours to feed in, and then go again to the plow, and are generally turned out about sundown or a little before. Under this treatment, they do not need to stop to rest from the time they commence work until noon or night, and will keep in good order, scarcely seeming to feel the heat.

An old New-England farmer learned him that salt was injurious to working oxen; accordingly he never gives it while they are in daily use for work. It causes them to drink heartily, after which they will lie down until the water passes out of the stomach, eating little or nothing by the time you wish to go to work again. Not only that, but drinking so much water and eating so little grass, will be likely to give them the scours, which will certainly weaken and render them less effective. Oxen managed according to this method, will do a great deal of work, and keep in good order, and will bring them into better repute in comparison with horses, for doing the work of the farm. M. *Monroe Co., N. Y.*

Cooked *vs.* Uncooked Food for Pigs.

EDS. CO. GENT.—Noticing the different statements about the value of cooked or uncooked feed for swine, I give you the result of several trials which I made the last fall, as follows:

Two pigs, selected Sept. 1, 1858, weighed 184 lbs.—fed for 30 days with 264 lbs. ground rye, cooked, and 58 pails sour milk. Pigs gained 93 lbs—cost 4 26-100 cents per lb.

Sept. 1, 1858, selected two pigs—weighing 187 lbs.—fed for 30 days, 234 lbs raw rye, ground, and 51 pails sour milk—gained 79 lbs—cost 4 44-100 cents per lb.

Oct. 1, 1858, commenced feeding the pigs (fed the pigs first 30 days on cooked feed.) on raw feed, and fed them 316 lbs. ground rye, and 60 pails sour milk—they gained 106 lbs. Fed the other two on cooked rye meal—fed 301 lbs., and 58 pails milk, and gained 89 lbs. Fed all four pigs for 30 days, from Nov. 1 to Dec. 4, on dry meal, and fed 515 lbs. rye meal dry, and water separate for drink—gained 113 pounds—cost per lb., 6 83-100 cents.

Dec. 1, 1858, the four hogs weighed alive 841 lbs.—dressed 673 lbs. Pigs were three-fourths Suffolk and one-fourth native.

I also fed three pigs for thirty days, 15 bushels potatoes, cooked, and 15 pails sour milk—the three gained 68 lbs.—with potatoes at 25 cents per bushel, the gain cost 5½c. per lb., without allowing for milk.

I conclude from the above trials, that one bushel rye is equal to three bushels of potatoes to make pork, and that it will not pay to cook meal for hogs—still two of the hogs from same litter, did the best on cooked feed. B. G. M. *Greene Co., N. Y.*

Advantages of Under-Drainage.

EDS. CO. GENT.—The draining of lands is manifestly receiving increased attention among our farmers, and as a matter of course, information is asked for on all points pertaining to this subject. True, information is contained in books, as well as in the various agricultural publications of the day; but as to the books, only few have them, and papers are constantly receiving new subscribers, and even the old ones want to look at this matter in new aspects, and some of them to be told, over and over again, what kinds of land need to be drained, and the advantages, modes, and profits of doing it.

The *advantages* of draining have much interested the mind of the writer, and as he has investigated these from time to time, he has made a note of his investigations, and now offers them to you for publication in your valuable paper, and if you see fit, you can give them to your readers. I shall, in the present number, say something of the advantages of drainage to wet, clayey, cold land, as this is the kind of land most needing the operation.

1. *Drainage Removes from the Surface Stagnant Water.*—Water remains on the surface of land to become stagnant, only because no outlet is furnished for its escape. A hard impervious subsoil prevents its filtering through it, and sinking down where roots will be uninjured by it. Furnish under currents for the water, and there is no longer a necessity for the water to remain above ground, until changed from a healthful to a poisonous substance, by the continued action of heat and atmospheric air upon it.

2. *Drainage Removes Surplus Water from under the Surface.*—Those who work clayey soils have frequently observed water settling in their furrows, even when the surface of the land was abundantly dry to work. This arises from the same cause as noticed in the case of surface water. There is no under-ground passage; hence it must remain until room is made for it below, by the slow process of filtration, through a hard soil already saturated with water.

But the trouble is not confined to the plowing. Your crops cannot thrive when their roots are soaked with water. Plant your corn, or sow your wheat or any other grain, and the roots cannot stand in water for any considerable time, without detriment. That water must be removed in some way from immediately below the surface, or you are a loser in your crops. Drainage will remove it.

3. *Drainage Prevents Freezing-out.*—There are not many of our farmers but what know something about "winter-killed wheat," as it is called. Yet, many who know of it to their sorrow, do not understand the causes which produce it. They are simply these: Water expands in freezing. The good housewife knows this, who had the hoops burst off her washtub by being frozen up full of water; and so does the good house-band also, who left a quart or two of water in his caldron, and was roused from his slumbers one cold night, by the report made by the cracking of that caldron, under the expansive power of the frozen water which it contained. Now, when the surface of your land is filled with water, and left exposed to the action of frosts, and freezes nights, and thaws days, the eapansive nature of frozen water lifts up the soil, and with it the roots of wheat; and the repeated processes of this kind, finally effectually loosen the roots, so that when the earth at length becomes settled, the plant is left upon the surface, a rootless withered substance. What you need, therefore, is to draw off the water from the surface of your soil, and then freezing out or "winter-killing" will cease.

4. *Drainage Lengthens the Seasons.*—This announcement is often a poser; but let me explain. Your neighbor has a gravelly soil, which is fit for working some ten days or a fortnight before your heavy clay land. Why is this? You say, perhaps, that gravelly soil is warm and dry, whereas your clayey soil is cold and wet. But why is that gravelly soil warm and dry? Simply, because water filters through it readily, whereas your clayey soil holds the water on or under the surface, and prevents your land from becoming dry and warm. Hence you have a shorter season than your neighbor; and shorter than you would have if you would draw off that surplus water, by means of under-drains.

5. *Drainage Deepens the Soil.*—"Ah, how can this be?" you ask. I reply: You dig up a mass of clay and leave it exposed, and, as it becomes dry, slacks or crumbles to dust. So you dry your subsoil by removing from it the superabundance of water, and it shrinks and falls to pieces, or relaxes its tenacity to such an extent, that the roots of growing vegetation penetrate and draw from it the nourishment which it has been accumulating during all the years of its former imperviousness. Consequently, under-draining is temporarily equivalent to adding several inches of productive soil to the surface of your land.

6. *Certain Land cannot receive the full Benefit of Manures till Drained.*—You pile manures upon that wet swaly piece of land, and it seems like putting it into a pond, so far as any visible effect upon the crop is concerned. But you drain that swale, and then apply your manure, and you will no longer be left in doubt as to the effect of the manure. This is an illustration of the comparative effect of fertilizers as applied to soils under different states of preparation to receive and respond to their action. The truth is that much land needs draining before it can receive the full benefit of manures, especially such as bones, wood ashes, and the like.

7. *Drainage Prepares the Soil for the Admission of the Requisite Air to the Roots of Plants.*—That hard, wet mass of clay which you exposed upon the surface, was inaccessible to air till it became dry. Just so it is with your wet soils. As long as saturated with water they cannot be permeated with air; but remove the water, and the particles of clay shrink and give free access to air, and its healthful influence is witnessed in the more vigorous growth of the plants.

I have a few other "notes" which I have taken, relative to the advantage of drainage; but I will wait a little to see how the above are *approved* and *improved*, before I decide what shall be done with what remains. R.

Profitable Pigs.

In November last I purchased from a neighbor for $3, two pigs, then four weeks old. They were kept in a perfectly dry and warm place, with plenty of clean straw, and fed with the swill from my kitchen. They never had any other food.

Last week a village butcher bought them, to kill as needed, and has to-day made the following return and paid the same:

May 14th, one shoat weighed when dressed	142½ lbs.
" 17th, " " " "	149 "
Total,	291½ lbs.
At 8½ cents per pound,	$24.77
Cost less than six months ago,	3.00
Net Profit,	$21.77

GREENBUSH.

Great Butter Making.

Mr. Charles Burrill, of Kingsville, Ohio, whites to the Ohio Sentinel, "that he has made from one cow, from the 21st day of November, 1858, to the 21st day of February, 1859, one hundred and eleven pounds and twelve ounces of butter, and raised a calf on the milk from the same cow, and that the calf will weigh about 200 pounds. He says the calf had new milk from the cow during the first four weeks, which he thinks lessened the quantity of the butter 25 pounds."

Composition and Management of Farm-yard Manure.

In our volumes for 1857, Prof. S. W. JOHNSON presented to our readers an abstract of the very elaborate investigations made by Dr. VOELCKER, (at present the Chemist of the Royal Ag. Society of England,) in reference to various questions and topics included under the above general title. His abstract was made up, however, not from the original communication of Dr. V., in the Journal of the Royal Ag. Society, but from an outline or synopsis thereof by the celebrated STOECKHARDT, author of "Chemical Field Lectures," in a German Chemical Journal. As reference is frequently made to the results of these elaborate investigations and analyses, in discussions as to surface manuring, and the best times and methods of applying barn-yard manure, and as there is probably, no higher authority to be quoted or appealed to on the subject of the comparative composition of fresh and fermented manure, or that of the changes which it undergoes in passing from the one to the other, we have been induced to lay before our readers the main features of Dr. V.'s researches, and the more important, for practical purposes, of the various results and inferences to which those researches led him, without encumbering them with a mass of analytical details, seldom either interesting or instructive to the general reader or the practical farmer. The original communication of Dr. V. seems much better adapted to our purpose than the German synopsis of it in a *chemical* journal, from which Prof. J. prepared the abstract of it, to which we have referred.

The manure experimented upon was composed of the droppings of horses, cattle, and hogs, mixed with the straw that had been used as litter, and very thoroughly worked over, so as to ensure a manure of uniform composition. Of a lot of manure thus prepared, analyses were made at several times within a year, or while yet fresh and at sundry stages of its decomposition.

The first analyses were made of the fresh manure, when it was only fourteen days old; and in this condition, it gave the following general results:

		Containing nitrogen.
Water,	66.17	
Soluble organic matter,	2.48	.149
do. inorganic matter,	1.54	
Insoluble organic matter,	25.76	.494
do. inorganic matter,	4.05	
	100.00	.643

On subjecting the fresh manure to analysis for ammonia, the percentage of that substance in the free state, or state of volatile carbonate, was found to be .034, and in the state of fixed salts .088,—thus showing that the amount of *ready formed* ammonia in *fresh* manure is very trifling. So small indeed was the amount of this substance going off in the form of volatile carbonate, that a delicate reddened litmus paper held over the manure was not affected at first, and only slightly changed to blue after the lapse of a couple of hours. Total percentage of ammonia, developed and undeveloped, was .780, or of nitrogen, .643.

In the ash—mineral or inorganic portion—of this manure in the fresh state, were found silica, phosphate of lime, lime, magnesia, potassa, soda, chloride of sodium, sulphuric acid, carbonic acid, oxide of iron, and alumina, with phosphates containing .178 per cent of phosphoric acid, in addition to that in the phosphate of lime. As the exact proportion in which each of these was found, is unimportant for *practical* purposes, we omit the tabular statement thereof; but think it of importance to call the attention of practical men to the fact, which a glance at the above-named mineral ingredients will suggest at once to some, namely, that farm-yard manure is well entitled to the name of a perfect and universal manure, inasmuch as it contains *all* the constituents which our cultivated crops require to bring them to perfection, and is suited to almost every description of agricultural produce.

An inspection of the analytical results just mentioned, will bring to view some other particulars of practical value, as,

1. That fresh farm-yard manure, resembling that analysed,—upon which no rain had fallen, and the water of which was consequently due to the urine and the moisture of the droppings, and the litter—consists, in round numbers, of two-thirds water, and of one-third dry matter.

2. That in fresh dung the proportion of *soluble* matters, both organic and mineral, is quite small comparatively, with the *insoluble*. This circumstance fully explains the slow action of fresh dung when compared with the effect which a well rotted manure is capable of producing.

3. That comparatively speaking, but little nitrogen, and of course but little ammonia, exists in fresh dung in a state in which it can be assimilated by the growing plants. Most of the nitrogen, as we shall see by and by, is gradually liberated as the fermentation of the dung progresses.

4. That as far as the inorganic or mineral fertilizing substances are concerned, we find in farm-yard manure, potash, soda, lime, magnesia, oxide of iron, silica, phosphoric acid, sulphuric acid, chlorine, and carbonic acid,—in short, all the minerals, not one excepted, that are found in the ashes of cultivated crops.

5. That of organic fertilizing matters, we find in farm-yard manure some which are readily soluble in water, which contain comparatively a large proportion of nitrogen, and others insoluble in water, and which contain, comparatively, a small proportion of nitrogen. The former readily yield ammonia, while the latter principally give rise to the formation of humic acids and similar organic compounds. These organic acids constitute the bulk of the brown vegetable substance, or rather mixture of substances, which pass under the name of humus.

Fermented Farm-Yard Manure.

With the design of ascertaining the changes which farm-yard manure undergoes in keeping, Dr. Voelcker submitted to analysis a sample of rotten dung, produced under the same circumstances under which the fresh manure was obtained. The rotten sample was at least six months old, possessed a dark brown, almost black color, and appeared to be well fermented, short dung.

The general composition of this dung was as follows:

		Containing nitrogen.
Water,	75 42	
Soluble organic matter,	3.71	.297
do. inorganic matter,	1 47	
Insoluble organic matter,	12.82	.309
do. inorganic matter,	6.58	
	100.00	.606

The proportion of ammonia present in a volatile form was found to be .046, and in the form of salts, .057—an amount, it may be seen by referring back, not much larger than in fresh dung produced under the same circumstances.

A comparison of these analytical results with the

numbers obtained in the analysis of fresh manure, exhibits several striking differences:

1. The well rotted dung contains 10 per cent. more water than the fresh. This larger percentage of water may in part be accidental; but it seems highly probable that rotten dung will always be found more moist than fresh dung upon which no rain has fallen.

2 Notwithstanding the much larger percentage of moisture in the well rotted dung, it contains almost as much nitrogen as the fresh dung, with only 66 per cent. of moisture. Supposing both to be equally moist, there would thus be considerably more nitrogen in rotten dung than in an equal weight of fresh. As far then as this most valuable element is concerned, farm-yard manure becomes much richer, weight for weight, in becoming changed from fresh into rotten dung.

3. During the fermentation of the dung, the proportion of *insoluble* organic matters greatly diminishes.

4. Perhaps the most striking difference between fresh and rotten dung, is exhibited in the relative proportions of *soluble* organic matter. Well rotted dung, freed from moisture, contains twice as much soluble organic matters as fresh. As the proportion of soluble inorganic or mineral matters is also greater, and both richer in nitrogen, it follows that, weight for weight, well rotted farm-yard manure is richer in soluble fertilizing constituents than fresh dung, and therefore is adapted to produce a more immediate and powerful effect on vegetation.

Changes during Fermentation.

The principal changes found to occur during the process of fermentation, or more properly putrefaction, are these:

1. The proportion of soluble matter, both organic and inorganic, rapidly increases, and is more easily washed out by rains, as well as more readily available for the growth of plants.

2. Peculiar organic acids are generated during this process of decomposition, which acids (humic, ulmic, &c.,) form with potash, soda, and ammonia, those dark colored, very soluble compounds, and give the dark color to the drainings.

3. Ammonia is produced from the nitrogenous constituents of the dung, and is fixed for the greater part, by the humus substances produced at the same time. That portion of the ammonia which is not fixed, escapes into the air.

4. Organic substances decrease and mineral ones increase proportionately during decomposition. This loss of organic substances is accounted for by the formation of carbonic acid, carbonic oxide, and light carburetted hydrogen, or marsh gas.

The practical result of these changes is, that fresh manure in ripening, becomes concentrated, more easily available to plants, and consequently more energetic and beneficial in its action. But this desirable result is not usually attained without some loss of fertilizing matter. In answer to the question whether or not this loss is considerable, Dr. V. remarks that the *mineral* matters being non-volatile, must remain, if care be taken to avoid their being washed away by heavy falls of rain; that the *carbonaceous* matters are not of very high value, and that the only other constituents which can come into consideration, are the *nitrogenized* matters. The question may therefore be thus simplified: Is the fermentation of farm-yard manure necessarily attended with any appreciable loss in nitrogen? Dr. V. is inclined to regard this loss as quite insignificant, inasmuch as rotten dung, freed from water, contains more nitrogen than fresh, and as the process of decomposition is attended with the simultaneous formation within the manure heap of humus compounds and carbonaceous matters, which are excellent fixers of ammonia. The loss which does occur in exposed heaps, is rather from rains washing out the soluble nitrogenized matters, than from the escape of volatile ammonia. The loss which manure heaps undergo, is principally during the warmer and more rainy seasons of the year, and occurs principally after the constituents have become more soluble by decomposition. Thus he found that at the end of April, there was nearly the same amount of nitrogen as there had been at the beginning of Nov., when the manure was fresh; whereas at the end of August, 27.9 per cent. of the total amount of nitrogen, or nearly one-third of the nitrogen of the manure, had been wasted in one way or another.

As it is certain that for some purposes fresh dung can never take the place of that which is well rotted, farmers will always be compelled to submit a portion of their home-made manure to fermentation; and this being so, it will be some satisfaction to them to find direct proof in the analyses of Dr. V., that as long as heavy showers of rain are excluded from manure heaps, or the manure is kept under cover or in water-proof pits, the most valuable fertilizing matters are preserved. But they should at the same time, remember that after the rotting has been considerably advanced, and the component parts of the manure have become much more soluble than they were originally, then rapid deterioration takes place when exposed to heavy showers of rain. The soluble matters get washed out, and with them a considerable portion of available nitrogen, and the more valuable mineral constituents, are wasted. The analytical data of Dr. V. afford proof that even in active fermentation little nitrogen escapes in the form of volatile ammonia, but that this most valuable of all fertilizing materials, along with others of much agricultural importance, is washed out in considerable quantities by the rain which falls on the heaps, and is wasted chiefly in the drainings of the dung heaps. The manure examined, after keeping from Nov. to April, began to lose both in soluble organic and inorganic matters, and in nitrogen; and by next Nov. it had lost about two-thirds of the organic matters, and nearly a half of its nitrogen. After nine months' exposure to the weather, the total amount of dry matter had decreased very nearly 50 per cent., or from 960 to 488 pounds. This *enormous waste* may be prevented to a great extent, by applying the manure in a fresh state to the land, by saving it from washings, and in other ways.

To Make Porous Cheese.

A Vermont correspondent of the *N. E. Farmer* gives the following description of the causes of porous, puffy, elastic cheese:

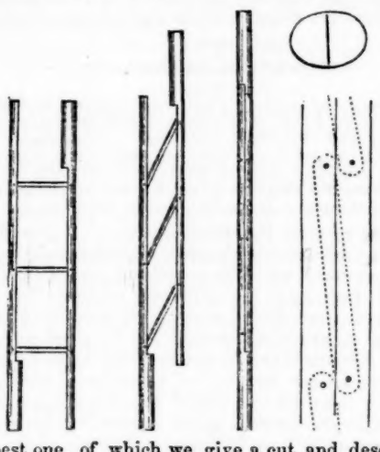
"To make porous cheese, in the first place heat the milk very hot, not scald it, then throw in the rennet; be sure to get in enough, and if you want a very porous cheese, put in a great deal *too* much, so that it will come in a very short time, but don't put in but very little salt, (*not half enough,*) and then don't let the curd stand long enough for the whey to drain off, but hurry it into the press as quick as you possibly can; then let it stand in the press until it is pressed enough, or until you can conveniently attend to taking it out—and my word for it, if you don't have a porous cheese to your satisfaction, a slice of which will stretch out by pulling at each end like a piece of India rubber, as long as your arm, and on letting go of it, will contract into its original dimensions. The world was not made in a moment, neither can good cheese be made without time and care."

Inquiries and Answers.

PLASTER OR GYPSUM.—How is plaster used to the greatest benefit? L. F. SCOTT. *Bethlehem, Ct.* [The most approved practice generally is to sow about a bushel annually on clover, early in spring, that it may become dissolved by rains and carried into the soil by the time the crop is well under way. If any of our correspondents have discovered by well tried experience a better way, we should be glad to hear from them.]

MANURE.—Is it true, as frequently stated, that barnyard manure contains all the ingredients that are absolutely necessary for the perfection of all plants? Is not blight, rust, &c., sometimes produced by the want of some mineral ingredients, as well as by the state of the atmosphere? J. B. B. [Yard manure contains nitrogen, phosphate of lime, magnesia, silica, lime, muriate and sulphate of potash, &c., &c., the different ingredients required in the growth of plants, although some of them are not always in sufficient *quantity*. Hence the advantage of adding lime, gypsum, ashes, bone-earth, &c.]

FRUIT LADDERS.—Will you have the goodness to give instructions how to make a fruit ladder, in the most convenient form, for use in picking apples, &c.? I have heard of their being made very convenient, but cannot learn on inquiry here, how they are constructed. T. [There are several ways of constructing fruit ladders.



The best one, of which we give a cut and description from Mr. THOMAS' "American Fruit Culturist," can be easily understood and readily made. It is made of strong light wood, and when closed it becomes like a round stick, easily carried in one hand. The figure shows the ladder as open, half closed, and as closely shut. The ends of the rounds turn on iron pins, slightly riveted outside. The rounds resting on shoulders, when the ladder is open, renders the whole stiff and firm. When closed, this ladder can be thrust through the branches like a round pole, without the least difficulty, and when once there is easily opened.]

TO PREVENT HORSES RUBBING THEIR TAILS.—J. D. asks how to prevent horses rubbing their tails? Go to your nearest doctor or druggist, and get prepared a bottle of "Yellow Wash." Rub a little of it into the hair about the roots of the tail, once or twice a day, rubbing it in well, that it may get to the skin. It will stop the itching, and of course stop the rubbing. B. S. S.

ALSIKE CLOVER.—In the Co. GENT. of March 10th, C. L. inquires where he can get seed of the above named clover. Having much faith in the correctness of Mr. WRIGHT'S statements in regard to it as a forage plant—(see Co. Gent. of 24th June, 1858)—I have been anxious to obtain some of the seed, and a month or two since sent to the seed-stores in Boston for it, but could procure none. I then sent to the Patent Office, and have recently received therefrom two small packages of seed,—which will be sown on good ground, and at some future time I hope to report favorably respecting it. Probably C. L. and others, could obtain small samples of the seed by writing to the Ag. Department of Patent Office. L. B.

PUMPING WATER UP A SLOPE.—Below is an inquiry published some weeks since, to which we have been favored with the following answer:—Can I bring water 6 or 8 rods by a suction pump, if the pump stands on ground 6 feet above the surface of water in the well or spring? Would it be better and cheaper than to build a cistern?

ANSWER.—Lay the pipe in the direction A B C D, or in any other direction touching A C D. C being lower than A, water will not flow back to it. Lay below frost. A. Spring—D. Pump—Dotted line, Level. B. F. CRANE. *Carmel, Putnam Co, N. Y.*

CESS-POOL DRAINS.—Can I effectually convey to the manure pile, say through round tile or otherwise, the contents of the privy, by running through the same the warm soap-suds of the weekly washings? The fall is 14 feet in a distance of 210. If it can be done, of what sized bore should the tile be? If you cannot answer this question satisfactorily, can you give me the name and address of some person of experience in such matters, to whom I can write? X. R. B. *Beloit, Wis.* [If the water be in sufficient quantity, and the bore large enough, there will be no difficulty. We think the spare slops and soap-suds of a common family would be sufficient, and tile with a bore of four or five inches would probably do, but six inches would be better.]

MANURE AND ASHES FOR CORN.—I wish to apply stable manure and ashes to corn in the hill. Will it be advisable to mix the manure and ashes before applying them? In what proportion should they be mixed? Also, the proper quantity, and the best manner of applying them to the hill? Part of the ashes are leached, and a part unleached. Soil light sandy, containing a large amount of vegetable matter. W. M. WILEY. *Guilford Co., N. C.* [Ashes are applied in several different ways; and as the nature of the soil has something to do with their operation, it will probably require much experience to determine the best mode under all different circumstances. In some places where the soil is sandy, the manure is first applied in the hill, say at the rate of a small shovelful each—the ashes is afterwards applied at the first hoeing by being spread around the hill at the rate of 50 or 60 bushels per acre, and hoed in. If there is much vegetable matter in the soil, more ashes may be used. Ashes may be mixed with manure in compost, so as to become thoroughly diffused through it, at the rate of ten or fifteen loads of manure to one of ashes; the proportions need not be very exact. Leached ashes should be in twice as large quantity or more. Or the ashes may be sowed broadcast by a light shovel or flour-scoop, and harrowed in before planting. All the rain which usually falls between planting and harvesting generally serves only to dissolve them enough to become properly diffused, in whatever way applied.]

QUESTION ABOUT DRAINING.—I have considerable heavy clay land that would pay for underdraining, but I have no outlet; also, a piece of quite wet meadow, which now has a surface drain, but that also has not fall enough to sink it deep enough for an outlet for underdrains. Will it do to dig a well or cistern in the lowest part of the fields, and use that for an outlet or reservoir? An answer from you, or from some of your correspondents that have had some experience in under-

draining, will oblige a subscriber. E. T. C. *Monroe Co., Pa.* [An inch of rain on three acres is enough to fill a cistern or well holding a thousand hogsheads. If such a cistern were made, and empty on the start, it would therefore soon become filled. It sometimes happens that by sinking a well, a porous stratum is reached below, through which drainage is effected; but this is not common. The only remedy appears to be a large central drain, carried far enough to produce the desired descent and drainage.]

DISEASES OF THE HORSE.—Our correspondent, C. F. BANCROFT, East Calais, Vt., is informed that Dadd's Horse Doctor is sent postage free on the receipt of $1, its price, by A. O. Moore & Co., publishers, 140 Fulton street, New-York, and will enable him to examine into the various different causes which produce cough in horses, and especially in relation to the particular case which he describes. Youatt on the Horse is also a valuable treatise, which often goes more minutely into symptoms, and affords many good suggestions on their treatment, although his kill or cure remedies, bleeding, heavy dosing, &c., are not so good as those of Dr. Dadd.

DWARF FRUIT.—*W. S. J., Rock Hill, Mo.* We know of no work devoted especially to the culture of dwarf fruit trees.

CURB IN HORSES.—I have a valuable colt three years old past, with a curb of perhaps six months standing—is lame after being driven ten or twelve miles. Will some of your numerous readers who have had experience, be kind enough to tell me if it can be cured, and if so, how? E. B. F. [The very best remedy for curb, unquestionably, if it can be applied immediately when the disease first appears, is *rest*. Cold water bandags, cooling liniaments, or vinegar, are useful auxiliaries. After the disease becomes chronic, and there is no inflammation, very moderate exercise with liniaments producing counter-irritation may be best.]

WIRE-WORM.—I have a piece of ground near a river, that is badly infested with the wire-worm. Is there any thing that I can apply to the hill or otherwise, so that I could get a crop of corn or roots of any kind the present year? The ground froze up so early last fall that I did not plow it then. I wish to turn the sward over this spring and plant it. H. CAPRON. *Uxbridge, Mass.* [We know of nothing better to repel the wire-worm, than a plentiful application of fermenting manure. Can any of our correspondents give a better remedy?]

MILL SCREENINGS FOR HORSES.—I have been feeding mill screening to my horses for about one month, but yesterday was told by the miller that they were "totally unfit for horse feed," and would "give them the *heaves* in a short time." Now can you tell me if this is a fact, and if such will be the result of my month's feeding? Also, please inform me what is a good, reasonably cheap feed for work horses, as all kinds of feed are high in this locality. J. G. J. *Washington City, D. C.* [We hope some of our correspondents who have had experience in this matter, will give the information desired.]

SOFT-SHELLED EGGS.—Can you inform if there is any remedy to prevent turkeys from laying soft-shelled eggs? I have one which has free access to lime and pounded oyster shells; and she has layed about six eggs, all of them having no outer shell. H. R. W. *Baltimore, Md.* [Can some of our correspondents answer the above inquiry?]

REMOVING FILMS FROM THE EYES OF CATTLE.—Co. Gent., Vol. XIII, p. 273. Half a teaspoon full of salt thrown into the eye soon after the injury, will usually remove the film. Another remedy, perhaps more effectual if badly hurt, is molasses and fresh butter—equal proportions. F. G. ELY. *Ripley, Chau. Co.*

DRAINING.—Co. Gent., Vol. XIII, p. 273. "A Subscriber" may cut a ditch around the three hill sides of his ten acre lot, as wide as necessary, and considerably deeper than the other drains leading into it. A pump can be erected on the milldam side of the lot; it may be either a screw, force, or common lift-pump. Wind power to drive a pump can be purchased of LEVI RYAN, Middletown, Del. Shaft sixteen feet high, which will be sufficient power to keep 50 acres dry enough for cultivation, if the soil is good and firm. J. JONES.

CEDAR BUCKETS.—To an inquiry, "how to season Cedar Buckets," I answer: Varnish the inside with simple "shellac varnish." Some of our brewers here build immense vats of cedar, (which gives the liquor an exceedingly disagreeable astringent taste,) and varnish the inside as above, and have no further trouble. Nothing is so efficacious, *I know*, as I have seen vitroil, lime, &c., all tried, but this answered best. Alcohol and shellac, which are both cheap, are all the ingredients. They will not need it a second time. JOSEPH G. TAITE. *Philadelphia.*

DWARF APPLES.—Please inform me what a dwarf apple is. J. R. GILLESPIE. *Aberdeen, Ind.* [A dwarf apple tree is any desired variety of the common apple budded on the dwarf or Paradise stock, (which is a very small species of apple,) thus reducing its growth, so that it attains only a few feet in height, and the trees may be planted but a few feet apart in gardens, like currant bushes. The Doucain stock is of larger growth than the Paradise, and apples worked upon it make larger trees, midway in size between the small dwarf and the standard, and are suitable for fruit gardens, where the common apple would become too large.]

New Publications.

FARM DRAINAGE. The Principles, Processes and Effects of Draining Land, with stones, wood, plows, and open ditches, and especially with tiles; including tables of rain-fall, evaporation, filtration, excavation, capacity of pipes; cost and number to the acre of tiles, &c., &c. By Henry F. French. New-York: A. O. MOORE & Co., Agricultural Book Publishers, 140 Fulton-st.

This work by Hon. HENRY F. FRENCH of New Hampshire, may be called a complete and thorough work on the subjects treated. The principles, processes, and effects of draining; the different methods of using stone, wood, tile,—in fact every item in relation to complete and systematic draining has been given in this volume. Judge FRENCH is a clear and vigorous writer, a farmer of close and varied experience, and a man eminently fitted for the task of preparing this work. It has been looked for with great interest by the agricultural press, as well as by farmers throughout the country; and now we have in a volume of nearly 400 pages, a complete treatise on farm drainage, by an American author—the most comprehensive and valuable work on the subject, that has been written on either side of the water. Price $1. We have ordered a supply and will furnish free of postage to any one remitting the price.

HINTS TO HORSE KEEPERS: A Complete Manual for Horsemen; embracing how to breed, buy, break, use, feed, physic, groom, drive and ride a Horse, together with a chapter on Mules and Ponies. By the late Henry William Herbert (Frank Forrester.) Beautifully illustrated. New-York: A. O. MOORE & Co., Agricultural Book Publishers, 140 Fulton street.

A work, the first part of which was written by the late Henry William Herbert—containing valuable information on the management, care, and keeping of this most noble of all domestic animals—and completed by an eminent hand—one who fully carries out and completes the plan—has been issued by A. O. Moore & Co. of N. Y. Works on horses have been very numerous of late, and among such a vast number, it must be expected that much repetition will occur. Mr. Herbert gave to the world, but a short time before his death, an important and truly valuable NATIONAL WORK, on Horses and Horsemanship in the United States, and British Provinces of North America. It was an expensive publication—issued in a high style—and sold at a corresponding high price. But the want yet was

a general work on the horse; one complete, and yet not high priced; in short, a book that would benefit everybody who owns or drives a horse, and one which such should not be without. This recent publication is a work of that class. It comprises matters of interest and value to all who own a horse; treats of breeding, buying, educating, using, feeding, driving, and riding—in short it is a complete manual for the farmer or stable-keeper, a *vade mecum*. To this is added several chapters on carriages, harness, and general matters. The book is well got up, finely illustrated, and sent by mail, postpaid, for $1.25.

A PRACTICAL TREATISE ON THE HIVE AND THE HONEY-BEE. By L. L. LANGSTROTH, with an introduction by Rev. Robert Baird, D. D. Third edition, revised and illustrated with seventy-seven engravings. New-York, A. O. MOORE & Co., Agricultural Book Publishers, 140 Fulton-st.

It is a luxury to have agricultural works issued in so becoming a style as the present and other recent volumes published by the same house. We need not speak of the merits of this third edition of the Treatise of Rev. L. L. Langstroth, either as a literary production, or as a plain, practical manual for the apiarian. This edition has been re-written, and the latest discoveries of the author are added. The illustrations—about eighty in number—are finely executed, and the work will be an ornament to any library or book-shelf in the land. Even if one has no interest in keeping bees—simply as a work on Natural History, and as conveying a vast amount of curious information on the honey bee—it will be an agreeable volume from which to learn the habits of those little

> "Creatures that, by a rule in Nature, teach
> The art of order to a peopled kingdom."

REPORT OF THE KENTUCKY STATE AGRICULTURAL SOCIETY for the years 1856 and 1857. Prepared by Robert W. Scott, Cor. Sec.

A volume of nearly 600 pages, embracing the Report to the Legislature of Kentucky of the Secretary of the State Agricultural Society, has been forwarded us by F. J. FLANAGAN, Esq. It contains the reports of the County Agricultural Societies, Historical Notices of the Early State of Agriculture in Kentucky, full reports of the State Fairs for 1856 and 1857, and a large number of essays, relating to the stock, industrial resources of the State, fruit, &c. Illustrations of the prize stock from the farm of R. A. ALEXANDER, add much beauty to the volume.

Wheat and Chess.

Our correspondent at Fincastle, Va., who states a case where a crop of chess took the place of an expected wheat crop, is referred for an answer to his question as to how the seed of the chess came there, to our remarks on page 138, current volume of the Country Gentleman, and also to several articles in the previous volume. In the meantime, we wish to remind our readers who believe that wheat will turn to chess, if there be any such readers, of the

FIVE HUNDRED DOLLARS REWARD,

offered some months ago by one of the editors of this paper, (the offer to continue till the end of this summer,) to any one who will furnish us with the first single plant caught in the act of transmutation, so that the same root shall have distinct wheat and distinct chess. Out of the billions of plants which are undergoing this change every season, if there is any such change, there must be many which stop half way. Advocates of transmutation have often asserted that such plants were found, but having failed to get a sight of them, the above reward is offered. But, as was stated before, in order to secure ourselves against the annoyance of spurious demands, every applicant in presenting a claim must accompany it with a hundred dollars, which will be returned with the five hundred dollars in case the claim for the reward is sustained. The publishers of this paper will become responsible for the payment of the award on these conditions; and if not claimed the advocates are expected "ever afterwards to hold their peace."

Lumps on the Jaws of Cattle.

MESSRS. LUTHER TUCKER & SON—Seeing an article in the March number of THE CULTIVATOR, respecting lumps or holdfasts on cows' jaws, I thought I would write a line and let the public know a little of my own experience. Last spring I had a cow that had a holdfast on her jaw. It was about the size of a hen's egg when I first discovered it, and on examining it I found it was very hard, and fast to the bone. On showing it to one of my neighbors, we came to the conclusion that I should have to turn her dry and fit her for the butcher. I was very sorry to think that I must part with her, for she was an excellent cow. Having been a reader of THE CULTIVATOR for the last eighteen years, I thought I would look them over, and see what I could find that might enlighten me on the subject, and finding a receipt for a liniment for swellings on animals, recommended by A. WILLARD, Jr., of Hartford, I thought I would try it. It consisted of the following articles, viz:

Half an ounce Spirits Hartshorn.
One gill Spirits Turpentine.
Half a pint Sweet Oil.
Two ounces Gum Camphor.
One pint of Alcohol.

Dissolve the Camphor in the Alcohol, and then mix all the ingredients together.

I commenced applying the mixture once a day, and rubbing briskly with the hand. In about ten days it became loose from the jaw, and in two weeks more it became soft, and I opened it, and it discharged freely for a number of days. I kept up the use of the liniment daily, and in a short time it healed up sound, and is now as well as the other jaw. So much for taking the Cultivator. DAVID BERRY. *Newington, N. H.*

How a Chick is Hatched.

In conversation with Judge Butler of Norwalk, a few days since, he explained the operation of the hatching process, which is so beautiful and philosophical, that as we have never seen it explained in books, we repeat it to our readers.

The chick within the egg breathes through the shell; in the silky membrane lining the shell the blood circulates, and is thus brought in contact with outer air.

The head of the chick is in a position as if it had been brought round under the wing and over on the back—a little one side of course—in such a position that the least muscular exertion will press the beak against the shell, and about in the middle, and when any violent struggle is made, it will break a little hole in the shell. Now this little movement of the head, perhaps an eighth of an inch forward, turns the chick in the shell so that when the head is drawn back into its normal position, it is brought against another portion of the shell. The next struggle breaks a fresh hole, and so on, each struggle making a new opening in the shell.

These struggles, as the chick gains strength from breathing the fresh air, become more frequent. Finally, in the course of half a day perhaps, as it goes on turning itself in its shell, the little blood vessels which originally formed a connection between the chick and the lining membrane of the shell, are drawn so tight as to prevent circulation, or are twisted off, and when holes have been punctured and the shell cracked about two-thirds around, the shell falls apart and the young chanticleer steps out into a new world.

Occasionally the lining membrane of the egg is so tough that the shell parts from it, and leaves it unbroken, except in the little holes described, and so if not seen in time the chick dies; a pair of scissors will effect a liberation.

It is dangerous to attempt to take a chick from the egg before it has, as will be evinced by the cracked shell, turned itself nearly or quite two-thirds round; otherwise the blood vessels spoken of will be broken, and the chick either bleed to death or be long in recovering.

The whole process may be watched if the egg be kept warm in the hand, and observed as its struggles call attention to it. This will not interfere with reading or writing, and is instructive and interesting.—*Homestead.*

Average of Corn and Hay Per Acre.

MESSRS. EDITORS—Your excellent Journal contains instruction on all topics, and for all persons; and particularly on the prominent products of New-England farms—*Indian Corn* and *English Hay*. Can you give the public a reliable estimate of the actual amount of these crops respectively, and which is the greater crop? What is the average value of these products per acre, as taken from the field? We are apt to speak of them (as I have frequently done,) without any precise knowledge of what we are saying. If I were to guess at a sum expressive of the value of the average products per acre—exclusive of the extra expense of culture during the season—it would be about *thirty dollars*. What say you to this sum? Is it too high or too low? or what would be your *guess?* J. W. PROCTOR. *So. Danvers, Mass.*

We have no statistics by which we can give the amount of these crops for the New-England States. In New-York State, by the census returns of 1855, the hay crop of the whole State was as follows:

No acres.	*Tons of Hay.*
3,384,440¾.	3,256,948⅝.

The average being less than one ton to the acre!

The only counties in the State which average more than one ton of hay to the acre, are Chautauque, Chemung, Chenango, Columbia, Dutchess, Erie, Genesee, Herkimer, Kings, Livingston, Monroe, Montgomery, Niagara, Oneida, Onondaga, Orange, Orleans, Putnam, Queens, Richmond, Rockland, Suffolk, Tioga, Wayne, and Westchester.

The corn crop, by the same returns, stood thus:

Acres planted.	*Bushels harvested.*
917,601.	19,290,691½

This would give an average of but 21¼ bushels per acre!—a result which it seems about impossible to credit. To test the figures, we have gone over the tables, and compiled the average product of Indian corn per acre in the different counties. It is—omitting fractions—as follows:

Albany county,	15	Oneida,	27
Allegany,	29	Onondaga,	28
Broome,	26	Ontario,	25
Cattaraugus,	30	Orange,	17
Cayuga,	28	Orleans,	30
Chautauque,	28	Oswego,	24
Chemung,	33	Otsego,	27
Chenango,	32	Putnam,	27
Clinton,	15	Queens,	24
Columbia,	14	Renseelaer,	19
Cortland,	32	Richmond,	27
Delaware,	21	Rockland,	15
Dutchess,	16	St. Lawrence,	17
Erie,	25	Saratoga,	16
Essex,	17	Schenectady,	16
Franklin,	17	Schoharie,	22
Fulton,	22	Steuben,	22
Genesee,	26	Schuyler,	23
Greene,	10	Suffolk,	28
Hamilton,	16	Seneca,	23
Herkimer,	29	Sullivan,	23
Jefferson,	17	Tioga,	33
Kings,	27	Tompkins,	25
Lewis,	20	Ulster,	13
Livingston,	27	Warren,	17
Madison,	30	Washington,	22
Monroe,	26	Wayne,	25
Montgomery,	23	Westchester,	31
New-York,	38	Wyoming,	26
Niagara,	29	Yates,	15

By this table we make the average of the whole State, to be a fraction less than 23½ bushels per acre. But can it be possible that the corn crop of Albany, Columbia, Greene, Dutchess, Orange, Rockland, and Ulster counties, yields less than 20 bushels per acre?

A CURE FOR HORSES RUBBING THEIR TAILS.—In answer to J. D.'s inquiry, page 241, vol. xiii, no. 15, as regards horses rubbing their tails—Wash, three or four times with stale urine. It is a most effectual cure. J. OWENS

New-York State Ag. College Farm.

NEAR GENEVA, May 7, 1859.

MESSRS. TUCKER & SON—I last week made a visit to our *State Agricultural College Farm*, and I assure you I was highly gratified with my visit. There certainly is no finer location to be found. The view and scenery cannot be excelled. The farm contains about 700 acres, and it has almost everything within itself, that a man of intelligence could desire to make one of the best farms in the country. In the first place there is clay enough to make any quantity of tile and brick—(they are now making the brick for their buildings in process of erection.) Then they have springs at the highest point on the farm, of sufficient capacity to furnish a supply of water for all the buildings, as well as for irrigation of almost the entire farm. In addition, there is an inexhaustible quarry of limestone—a kiln already built to burn lime for the buildings. There is water power sufficient to propel all the machinery they will want on the farm for farm purposes—a small grist and saw mill now in operation. In fact they have, or can have, everything on the farm that the most enterprising farmer can ever want. *It is a most desirable field for enterprise*, and the most so I ever saw on the same extent of land.

I would strongly advise the draining of at least one hundred acres at once. If the tiles should be made on the farm, it can be drained for less money than mine cost me by five or six dollars per acre. The facilities for outlets are very favorable, and comparatively few main-drains would be required, and unless the excavation is harder than I anticipate, it can be drained, and *return an immense profit.*

If their head farmer, Mr. Wands, had 100 acres drained, I am satisfied he would produce fine crops, as he is one of the kind of men that suits me. He is a practical working man, and I advised him that he could do far more by head work and superintending than by his personal labor, where there are so many laborers to see to. If the trustees should drain 100 acres this season, and burn lime so as to apply 100 bushels per acre, I should take great pleasure in visiting the farm to witness the result. It would also be a pleasure to spend a few days in assisting Mr. Wands in laying out the drains—he would soon be able, from witnessing the manner of doing the work, to be entirely competent to carry it on without difficulty. JOHN JOHNSTON.

Profits from Poultry.

At a late discussion on poultry by the Concord Farmer's Club, as reported by a correspondent of the *N. E. Farmer*, J. B. Farmer, remarked as follows:—

"Last year he had 20 hens, and raised 150 chickens; did not know how many eggs; his hens cost him one half a cent per day. This year he had 30 hens; in January he had 50 dozen eggs, minus three eggs; he got 30 cents a dozen. Bought 150 pounds of beef, and kept it by them while it lasted; he pounded up the bones; the hens eat pounded bones greedily. He gives them warm dough once a day in cold weather. If we keep hens for the eggs only, he thinks the Poland, or Black Spanish, or Bolton Greys, are better than the larger breeds. It is profitable to raise chickens; his hens range over a 10 acre pasture; he keeps scraps by them. Hens should be treated gently; hens that are perfectly tame will lay twice as many eggs as wild ones; he thinks hen manure better than guano. Last year he had enough to manure three acres of corn in the hill."

SOAP-SUDS.—They are valuable; do not throw them away or waste them. Procure a barrel, and have it set where the suds can be readily taken from it for use. They make the *very best* manure for flower roots, currants, grapevines, &c. This sort of plants have a thirst for just such drink.

Notes for the Month.

AGRICULTURAL MARKET FAIRS.—We have received from the Massachusetts Board of Agriculture, a circular in relation to establishing "Market Days," or "Fairs." In connection with this, is a prize essay on the subject, from A. W. DODGE, of Hamilton. It is a paper of great interest, and presents an able appeal for market fairs to be held at certain seasons of the year, not only for produce, but stock and farm merchandise generally. This has long been a custom in Great Britain, and we see not why, with proper regulations and principles to control them, they cannot be made of great advantage to our farmers. The votes passed at the meeting of the Agricultural Board in regard to this subject, were:

Voted, That this Board recognize the great importance of establishing frequent Markets or Fairs, for the sales of Agricultural products.

Voted, That the subject be brought before the County Agricultural Societies, with the request that they will take early steps for the establishment of Markets within their respective districts.

In another place will be found an article on this theme from our correspondent COLUMELLA, to which we call special attention.

REPORT ON THE GEOLOGICAL SURVEY OF THE STATE OF IOWA: Embracing the Results of Investigations made during portions of the years 1855, '56, and '57. By JAMES HALL, State Geologist, and J. D. WHITNEY, Chemist and Mineralogist. Published by the State of Iowa. Charles Van Benthuysen, printer.

In 1855, the Legislature of Iowa passed a law providing for a Geological Survey of that State. Under this law, Prof. JAMES HALL of this city, was appointed State Geologist by the Governor, and Mr. J. D. WHITNEY of Northampton, Mass., to the department of Chemistry, Mineralogy, &c. In the two handsome vols. named above, and for which we are indebted to the kindness of Prof. HALL, we have the first portion of the results of the labors of these gentlemen. They exhibit the wisdom of the Governor in his selection of gentlemen to make the Survey, the science and energy with which it has been prosecuted, and are an honor, not to Iowa only, but to our country. The work is issued under the personal supervision of Prof. HALL, and is alike creditable to his fine taste, and the skill of the engravers, printers and binders.

ILLINOIS STATE FAIR, 1859.—We have received from Mr. S. FRANCIS, Sec., a circular containing regulations and premiums for the Seventh Annual Fair of the Illinois State Agricultural Socidty. The exhibition is to be held at Freeport, Stephenson Co., commencing on the 5th of September next, and continuing five days. The Society offer sixteen thousand dollars in premiums.

HORTICULTURAL SCHOOL FOR FEMALES. — Mrs. PHELPS of New-York city, proposes to erect on Long-Island, an establishment for training young orphan girls in the art of Horticulture—an art requiring patient care rather than physical strength. Buildings are now in process of erection, and Mrs. PHELPS has bestowed a valuable plot of land. The branches of industry will include the raising and preservation of fruit and vegetables; the scientific culture of flowers; the breeding of poultry, and everything that can be done by woman heartily and well. This is a move in the right direction, and we wish it every possible success.

OHIO WOOL-GROWER'S CONVENTION.—"A call," signed by Messrs. A. Hildebrand, John Noble, Henry Everhard, Simeon Perkins, and other prominent wool-growers of Ohio, for a "Wool-Grower's Convention," to be holden at Cleveland, O., on the 4th of August next, appeared in the last Wool-Grower. It seems to us that the plan of the proposed fair, will be received with approbation. Its object is, to exhibit the various samples of wool, awarding such premiums as an impartial committee of manufacturers shall decide—competition is open to every wool-grower in the United States. The many advantages resulting from such a fair, are apparent to all. There the producers and consumers will meet face to face, and by a personal intercourse, will become well acquainted with the wants of both parties; and each will be able to make suggestions, which must prove of benefit to all. The move is a good one

CARPET FASTENERS.—A very simple contrivance for the purpose of fastening down carpets—the invention of some Connecticut Yankee—has been sent us by JOSEPH BUDD, 324 Broadway, Albany, of whom they can be had. It consists of a small copper fastener, about an inch in length, having at one end two hooks or catches, and this being tacked down, the edge of the carpet is drawn over it, and thus securely fastened. It can be removed at pleasure, and no trouble of drawing tacks is incurred, and with no danger of tearing the edge of the carpet.

MICE DESTROYING THE OSAGE ORANGE HEDGE.—Mr. J. D. CATTELL of Salem, Columbian Co., O., writes that the field mice are eating up all the roots of the Osage Orange hedges in that region; so much so that they are utterly destroyed, and the cultivation of them must be abandoned unless some one can give a remedy. We have supposed, that the great superiority of this plant for live fencing, was its freedom from all insect and animal destroyers; but if no remedy can be found against the ravages of mice, it will be useless to set the plants. What shall be done?

MAPLE SUGAR.—The present has been a very bountiful sugar season. A correspondent of the Vermont Chronicle says—"Judging from the amount made in one medium neighborhood, averaging 1,528 lbs. to each farmer, and from the quantity made year before last, about 175,000 lbs., we set our town, Cambridge, Vt., at 185,000 lbs., and think this an under-estimate. We have in Lamoille Co., Vt., ten towns, all sugar-making, (Cambridge one of them,) and, calculating from the population in each as compared with our own, we think it safe to say 900,000 lbs. for the county."

HORSES FOR FRANCE.—We saw on board the steamship Vanderbilt, which left New-York for Havre on Saturday last, three splendid horses, selected and shipped for the Emperor Napoleon. The groom in charge of them informed us that one of them was bred in Vermont, one in New-Jersey, and the other in Kentucky.

THIRD VOL. DEVON HERD-BOOK.—SANFORD HOWARD, the American editor of this work, gives notice that the third volume of the American edition of the Devon Herd-Book will be put to press in a few days by Messrs. Brown, Taggard & Chase of Boston, who will issue it in four or five weeks. A circular will be sent to subscribers informing them when the work will be ready.

MICHIGAN AG. COLLEGE.—Hon. JOSEPH R. WILLIAMS has resigned the presidency of this institution—as have also we believe some of the other officers connected with it. R. F. JOHNSTONE, Editor of the Michigan Farmer, has been appointed Superintendent of the farm belonging to the College.

FOUR TONS AND A HALF OF MILK.—The papers say that a cow owned by "Hon. Mr. Buffinton of Fall River, has yielded during the past year 4,764 quarts of milk, or 13 17-365ths quarts per day, which was sold for six cents per quart, amounting to $285.84. The cost of the cow and feed was $198.45, making a net profit of $87.39 in one year, $13.39 more than the original cost of the cow, which was $74." This, at the rate of two pounds to the quart only, would amount to over four and a half tons of milk from one cow in a year.

AG. EDUCATION FOR FARMERS.—A correspondent in Yates county writes us as follows:—"Were I to plan an Agricultural college, I would have its professorships so richly endowed by the State that no tuition fee need be exacted from the student. The course of instruction should be confined to the winter months, and should consist mainly of oral lectures. Three years attendance, and a satisfactory examination, should entitle the pupil

to his Degree as Master of Agricultural Sciences. With each returning spring, a thousand boys should be sent back to their scattered homes, there to earn in practical farming their year's support, and to play their part in the collision of their new ideas with those of their fathers or employers. Such a college would tend widely and promptly to diffuse science already known. Instead of belonging exclusively to rich men's sons, its instructions and its honors could be reached by any able-bodied young man, who from sixteen to twenty years of age, had only himself to maintain."

RUNNING IN DEBT FOR A FARM.—Our correspondent G. H. B. wishes our advice on the subject of purchasing a small farm of 14 acres. It is within two miles of a town of 8,000 inhabitants—the land is sand and black loam, clay, and an intermediate; good house, barn, &c., and will cost $1,700, more than one thousand of which he will have to run in debt for. He wishes to know if it would be best for him to purchase it—whether he could pay for it, with its products in farm crops, small fruits, &c.

We have often received similar inquiries, but it is impossible for us to answer them unconditionally. The practice of running in debt for land, we cannot commend. There are a few,—perhaps one in a hundred,—who have such inherent energy of both body and mind, combined with good judgment and business tact, that they will pay off a large debt on the farm occupied, and erect buildings and make other improvements at the same time. But with the other ninety-nine, a heavy sum of money to pay, and accumulating interest, operate as a constantly retarding influence on enterprise and energy, by consuming the means that ought to be applied to keep the machine in motion. Every thing almost depends on the character of *the man*—and while one will succeed at any business and any where, others will entirely fail under the most favorable circumstances. As a general rule,—never depend on what may be done *for the future*, that is not founded on actual personal experience. For example,—if our correspondent, who now occupies the land he proposes to buy, has already made enough from it to support his family and pay more than its interest yearly, he may make the purchase. If, on the other hand, he depends on some untried business in which he has not yet had experience, he will probably find his estimates and actual results not in very close proximity.

TOBACCO SEED FROM CUBA.—Mr. OLIVER T. BRAGG, who has recently returned from a brief residence in the Island of Cuba, writes us, that from his observation he thinks the best quality of Cuban Tobacco may be cultivated in the United States with perfect success. He procured a quantity of genuine tobacco seed, grown in the district of Pinar del Rio, in the western part of the island—and will send a small quantity of this seed to all who may wish it, *free of charge*, provided they will report to him the success which attends its cultivation. Mr BRAGG's address is St Louis, Missouri.

STAY WHERE YOU ARE.—Do not live and work on your farm, with the expectation or wish to *sell out*. Nothing will keep a man so much in a state of indecision. Living from day to day, with the idea that just as soon as you have a chance, you are going to sell, is one of the poorest ways of getting along. Make up your mind to stay where you are. Apply energy and headwork to your operations; determine to make a home—one for yourself and your family—have a marked and definite purpose in life.

RUTLAND CO. (VT.) AG. SOCIETY.—From HENRY CLARK, Sec., we have received a circular containing rules and regulations of this Society—the Fourteenth Annual Fair of which is to be held at Rutland, Vt., Oct. 5th and 6th, 1859.

SALE OF MR. WETHERALL'S STOCK, YORKSHIRE, ENG.—We learn from the North British Agriculturist of April 20th, that Mr. WETHERALL'S herd of Short-Horns was sold at public sale, the 19th. The attendance was very large—many of the most eminent breeders of Short-Horns being present. The competition was sharp, and the prices equalled some of the highest averages obtained in England. Thirty-five cows and heifers, and fifteen bulls were disposed of. The average being for the former, $387; for the latter, $301. Gross sum for cows, $12,945; for bulls, $3,725; total, $16,670.

THE CROPS.—Accounts of the state of the crops in various sections of the country, as brought us by exchanges and letters, report favorable and promising. In all parts of Ohio, Kentucky, and most of the Western and Northern States, the prospects were never better for large and bounteous crops.

STATE FAIRS.—Active preparations are in progress for State Fairs to be held throughout the Union. Two or three have been announced in our columns, and we this week have the following to report: Georgia State Fair, Atlanta, Oct. 24th, 28th—Kentucky, Lexington, Sept. 13th, 17th, 1859.

THE AGRICULTURAL REVIEW; AND IRISH COUNTRY GENTLEMAN'S NEWSPAPER.—The second number of a weekly journal of 16 large quarto pages each, bearing the above title, has reached us from Dublin, Ireland. It is edited by Professor CHARLES A. CAMERON, and the number before us gives evidence of spirit, life, ability, and practical worth. It was formerly issued as a monthly, under the first part of the above title; but a change having occurred, it adopts the remaining part, and is a really valuable "Irish Country Gentleman's Newspaper."

PRICE OF BAROMETERS.—In the last Co. Gent. the price of barometers is given at $20, $30 and $40. These are about double the prices at which they are made at Rochester, but the maker's name I do not recollect. I have an excellent barometer made some years ago at Rochester by Kendall & Taylor, for which I paid nine dollars—which was the wholesale and not the retail price, the latter being I think, $12. It has a Nonius, and is very accurate. It will show hundredths of an inch. V.

SORGHO AND IMPHEE.—We have cultivated the China sugar cane the two last years, with the most complete success, growing from 12 to 14 feet high, with stalks from 1 to 1¼ inches thick. We had it ground and boiled down to an excellent syrup, equal to the best sugar-house molasses. We also grew three varieties of the African Imphee, but do not think any of them superior to the Chinese cane. None of them grew so large; they were not so early, nor did they give a larger quantity of saccharine matter. W. DENNIS.

AG. PERIODICALS.—Through all the sixteen years of my medical practice, I have lost no opportunity to urge upon my agricultural friends, the value to them of periodical publications devoted exclusively to their interests. Experimental farms and the costly colleges pertaining thereto, will accomplish but a part of the good expected of them. "THE COUNTRY GENTLEMAN" will outstrip them all, through his weekly visits, which carry science, and taste, and humanity, to many a home beyond the reach of collegiate influence. S. R.

A HINT.—It may not be too late to say to our readers, that the whitewashing of cattle and horse-stalls, as well as the inside of hog-pens and heneries, not only renders them more healthy, but prevents the animals and fowls from being infested with troublesome and filthy vermin.

MUMMY WHEAT.—Enclosed I remit you a few "Egyptian Mummy Wheat" grains. It purports to be from the original grain which was found in one of the Egyptian pyramids some three or four years ago. I got it at New-Orleans, La., last May, it costing two cents a grain. From *nine* grains, I raised *one gallon* clean seed. If you have seen it before, what is your opinion? If not, please plant this. M. D. BOWMAN. *Vincennes, Ind.*

FARMER'S CLUBS.—We are getting quite interested in this region, in regard to our avocation. We have an

interesting "Farmer's Club," meeting weekly, at which, once in four weeks, one of the members delivers an address. Our discussions elicit much interest. Besides the 20 numbers of THE CULTIVATOR, there are taken at our P. O., a club of "American Agriculturist," one of the "Prairie Farmer," and the "COUNTRY GENTLEMAN." Our town is sparsely settled, and is entirely an agricultural district. We number about 100 voters, and have not a rum shop. J. B. JONES. *Low Moor, Iowa.*

MASSACHUSETTS CONSERVATORY OF ART, SCIENCE, &c.—The second number of the Conservatory Journal has reached us. It is issued under the direction of Mr. W. E. Baker, and devoted to establishing a "Massachusetts Conservatory of Art, Science, and Historical Relics." At a recent meeting of gentlemen representing the Association of Agriculture, Art and Science, addresses were made by Prof. AGASSIZ, Dr. H. H. GOULD, Hon. M. P. WILDER, and other eminent men. The plan is to establish a general Literary Exchange: to found an Educational Institution that shall disseminate its influence freely to all, and tend by its exchanges with similar institutions in the world, to bring all together upon the safest foundation of all peaceful relations—the general diffusion of knowledge, by interchange of mechanical, scientific, and artistic benefits and influences. We should have noticed this before, but the circular received from Hon. M. P. WILDER was mis-laid. The enterprise is a worthy one, and the object of great importance. What Massachusetts men take hold of, is sure to go.

HOUSING TOOLS.—At this busy season of the year, farmers are very apt to neglect to properly house their carts, plows, and farming tools. They are left in the field at night, where they are likely to be wanted on the morrow; but a storm comes on and the tools are exposed through a drenching rain. This injury done to the tools by being exposed to a rain and then using them in the sun, is greater than may be at first supposed. It is slight at first, and imperceptible, and that is the reason why farmers do not notice it. A pair of cart wheels properly housed both in summer and winter, will outlast two pair suffered to stand out in all weathers, and through all seasons. A farmer will buy a plow or a pair of cart wheels, and after using them for a few seasons, taking no pains to protect them from the weather, he will—as they begin to get out of order—say they were not made good; when the fact is, he has neglected to house them, and the rain has found its way into the joints, decay began, and after a short time they are gone. A cheap, temporary shed, for the purpose of stowing away farm tools, is an indispensable building upon every farm.

VALUE OF ROOT CROPS.—Mr. A. Blanchard of Allegany county, says in the *Rural New-Yorker*, of Feb. 26: "We have pursued with varied success, the raising of roots, for the last ten or fifteen years, and can safely assert that no part of our farming, for the amount of ground cultivated, has paid so high a per centage. We have mostly cultivated the ruta baga and Swede turnip, in connection with the mangold wurzel and carrots. We have raised of the turnips, in good seasons, from six to eight hundred bushels per acre, at a cost not to exceed sixpence a bushel, and for stock feeding purposes we consider them well worth twenty-five cents per bushel. We have of late years practiced Mr. Needham's plan of feeding roots in connection with straw, and think stock will do better on this feed than hay alone. For fattening purposes they are excellent—we have fatted our beef for years, on roots alone."

PLANTING SQUASH AND PUMPKIN SEEDS.—An eastern writer says that squash and pumpkin seeds, lying flat in the hills when planted, do better than those planted edgewise, throwing off the skin of the seed more readily, and without injuring the leaves.

IOWA STATE FAIR.—The Iowa State Ag. Society will hold its Sixth Annual Exhibition, at Oskaloosa, on the 27th—30th of September, 1859. A copy of the Regulations and Premium List has reached us from the Secretary, Mr. J. H. WALLACE. The Society offer a combined reaping and mowing machine, to any farmer in Iowa who shall raise the best five acres of spring wheat in the year 1859. A commendable prize.

☞ We are informed that Mr. E. MARKS of Camillus, N. Y., has recently sold the imported Short-Horn bull "Marquis of Carrabas," (11789,) for the improvement of the herd of W. R. RANDALL, Esq., of Cortlandville, N. Y. The Marquis, though eight years old, retains all his vigor and activity, and is perfectly docile

PROLIFIC FLOCK.—Mr. John Deering of Kendall's Mills, Somerset Co., Maine, has a little flock of fifteen sheep, which this spring make him the following report: One has three lambs; seven have twins; two yearlings are barren, and two will bring lambs. Eleven sheep have thus twenty lambs, all of which are alive but two; the whole flock being now 33! If any flock can make a better report, or any other farm stock present a better table of profit, we hope to hear of it.

WHEAT AS FOOD FOR STOCK.—A correspondent of the *Mark Lane Express* says that wheat boiled with a small quantity of roots will fatten cattle faster than the same value of best bruised oil-cake will do. Another has fattened pigs on wheat boiled with potatoes, and found them to "thrive most wonderfully." Linseed cake is too high, compared with most other food for stock—an evil which farmers can readily cure by refusing to buy it.

CRUELTY TO ANIMALS —The following bill has passed the Massachusetts Legislature, receiving the approval of the Governer: "Every person who shall cruelly beat, maim, or torture any animal, shall be punished by imprisonment in the county jail or house of correction, not more than one year, or by a fine not exceeding one hundred dollars."

CURE FOR HYDROPHOBIA.—A correspondent of the Providence Journal says in regard to this: "Eat the green shoots of asparagus raw, sleep and perspiration will be induced, and the disease can thus be cured." This remedy proved effectual to a man in Greece after the paroxysms had commenced.

GRAPES AND POTATOES MIXING.—A correspondent in Connecticut, in a late letter, says—"In my grape culture I have learned that early potatoes being planted near grapevines, they will mix in their blossoms and spoil the grapes." Can this be so?

CABBAGES WITH CORN.—At an agricultural meeting in Boston recently, Mr. Brooks alluded to the practice of planting cabbage among Indian corn. He knew an instance where cabbage was planted in alternate rows with corn, and the cabbage sold for $150 per acre.

Physalis Viscosa.

EDITORS CO. GENT.—A few weeks since I noticed a communication in the COUNTRY GENTLEMAN, respecting the Ground cherry, *Physalis viscosa*, and can fully endorse all therein said respecting its value, with the exception that I have never known wine made of it.

We had them last year in great abundance, gathered during the months of September and October. They grew on a piece of new ground, from which a crop of spring wheat had just been removed. We had brought to the house bushels of that most delicious fruit, after the husk in which they are enclosed is removed. A large quantity was eaten fresh as from the vines; when dried they resemble raisins in taste, and are highly relished when cooked, requiring but little sweetening. I do not know that it has ever been cultivated in Illinois. It grows spontaneously on somewhat newly broken ground in this vicinity. I notice that some one of your correspondents called it the Winter Cherry, which, according to good authority, "Wood's Botany," is another variety—*Physalis Alkekengi*, a native of Southern Europe, and cultivated solely for ornament—fruit acid and somewhat bitter. JULIA N. MOSS. *Jubilee, Ill.*

HAY AND GRAIN PROTECTORS.

The subscribers have for four years, by extensive correspondence, by practical observation, and by many experiments, endeavored to obtain information that would be a guide to the manufacture of the best *Hay and Grain Covers*, and we now offer the results of these investigations to the public. *We know* that our Protectors are the best ever offered to the community. As to the utility of the covers, we have the testimony of intelligent farmers in every part of our country.

Orders for samples or covers should be forwarded at once.

CHASES & FAY,
May5—weow2tw8tm3t 233 State street, Boston, Mass.

BUCKEYE MOWER,
WITH FOLDING BAR.
Aultman & Miller's Patent.

The subscriber takes pleasure in calling the attention of Farmers to the "BUCKEYE," the most complete and successful Mower ever introduced; combining in the simplest form all the qualities necessary to a perfect Mower. Its frame is supported on *two driving wheels*, either of which is independent of the other. The CUTTER BAR is attached to the frame by a DOUBLE HINGE JOINT, which allows either end, or the whole, to rise or fall, to conform to inequalities of the land. By means of a *lever*, the Cutters can be raised to pass obstructions or over cut grass—in mowing can turn either to right or left—always throws itself out of gear in backing, and backs with the ease of a cart; is light draft, free from side draft; has no weight on the horse's neck; is safe for the driver; almost noiseless in its operation; works well on any land—side-hills or salt meadows; and in any grass, whether lodged or standing, at a slow walk of either horses or oxen.

When not in use, the Cutters can be instantly folded over the front of the frame, and the Mower then driven any distance on the road. This feature belongs exclusively to the Buckeye Mower.

Since its first public exhibition, at the Great National Trial of Harvesting Machines at Syracuse, N. Y., July, 1857, at which it received the HIGHEST AWARD, THE FIRST PREMIUM GRAND GOLD MEDAL AND DIPLOMA, AS THE BEST MOWER, IN COMPETITION WITH *Manny's, Ketchum's, Hallenbeck's, Allen's, Burrall's, Kirby's, Heath's*, and several others, its principles have been fully tested by more than One Thousand Farmers, and without an exception, has received their unanimous approval. During the past season, numerous *First Premiums* were awarded to the "BUCKEYE," including the *New-York and Connecticut State Agricultural Societies.*

THE BUCKEYE HAS NO EQUAL—IT IS THE BEST MOWING MACHINE IN USE.

It is warranted to cut and spread from 10 to 15 acres of grass per day, with a span of horses and a driver, as well as is done by the best mowers with a scythe.

The demand the past season was far beyond our ability to supply, and we trust orders will be forwarded early, to prevent disappointment. ☞ Circulars, with a full description, forwarded on application.

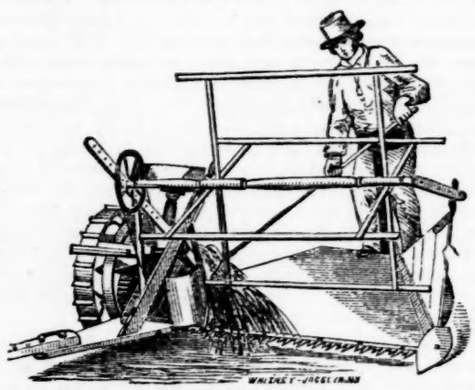
JOHN P. ADRIANCE,
Manufacturer and Proprietor,
No. 165 Greenwich-st., New-York.
EMERY BROS., Agents, Nos 62 & 64 State-st., Albany, N. Y. May1—w&mtf

FRUIT CARRIER, OR PATENT *TRANSPORTATION PROTECTOR.*

(See Co. Gent., May 21, 1857.)

The price of a Protector containing 32 square one-quart boxes, or 32 of the usual round boxes, is $2 87, deliverable at Winchendon, Mass., where Mr. Wm. Murdoch will furnish extra small boxes at $4 50 per gross for round, or $4 76 per gross for the square ones. For a Protector containing four shallow peck boxes, for peaches, plums, pears &c., the price is $2.10 Orders, addressed to HENRY B. OSGOOD, Whitinsville, Mass., are solicited. ap14w4m2t

MANNY'S COMBINED REAPER AND MOWER,
WITH WOOD'S IMPROVEMENT,
For the Harvest of 1859.



The subscriber begs to inform the public that he continues to manufacture this popular machine, and pledges himself to produce an implement that will fully sustain its former reputation, as the best combined machine yet introduced, and inferior to none, either as a Reaper or Mower.

It has had a steady and increasing popularity from the first achieving a complete success in the first important trial at Geneva in 1852. It carried off the highest honors at the great National Field Trial at Syracuse in 1857; and amidst all the competition and trials of 1858, came out with more and better established points of excellence than ever before.

The general principles peculiar to this machine, and upon which it is constructed, have proved so successful that there has been no attempt to change them.

The main effort during the last year has been to improve its mechanical construction, to make it stronger and more durable, and sustain its reputation as the leading and most acceptable machine to the largest class of farmers in the country.

Warranted capable of cutting from 10 to 15 acres of grass or grain per day, in a workmanlike manner.

Price of Machine as heretofore, varies according to width of cut, and its adaptation in size and strength to different sections of the country, from $125 to $150, delivered here on the cars.

WALTER A. WOOD,
Manufacturer & Proprietor,
Mar24—w&mtf Hoosick Falls, N. Y.

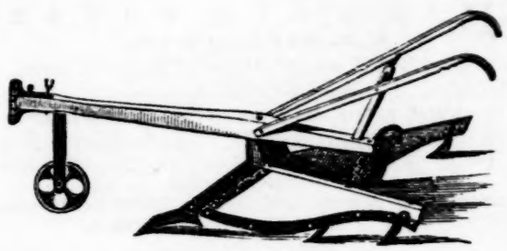
OPPOSITION FARE REDUCED.
MERCHANTS' LINE OF STEAMBOATS,
BETWEEN NEW-YORK AND ALBANY.

The Steamer KNICKERBOCKER, Capt. W. B. Nelson, leaves the foot of Robinson-st., New-York, every Monday, Wednesday, and Friday, at 6 o'clock, P. M.; the Steamer HERO, Capt. J. W. Hancox, every Tuesday, Thursday, and Sunday. Returning, will leave the Steamboat Landing, Albany, daily, Saturdays excepted, at 7 o'clock P. M.

Travelers will find it to their interest in calling at the Office of the Agents of this company, before engaging passage elsewhere.

Freight carried at reduced rates and forwarded promptly. ELI HUNT, Agent—Office on the Wharf, New-York.
G. W. STEVENS, 282 Broadway, Albany.
March 10, 1859—w&m9ms

Horticultural Books,
Of all kinds, for sale at the Office of the Co. Gentleman.



Farmers, Save your Money!

TRY ONE OF SHARES' PATENT

Cultivating, Hoeing and Hilling Machines,

PRICE $10, which will save more than twice its cost the first season, and with ordinary care will last years. It is light and easily used with one horse, and will do more cultivating in going between the rows once, than an ordinary cultivator can do in two or even three times, and will hoe and hill any crops planted in hills (the crooked form of the back part of the wings shape the hills) or drill-fast as a horse can walk, and better than men can do it with hand hoes. Price only $10, and warranted—weight 80 pounds.

Manufactured by PEASE & EGGLESTON,
84 State-st., Albany, N. Y.,

Dealers in all kinds of Agric'al Implements, Seeds, &c.
May 12—w8tm2t

WOOD'S MOWER.—

Patented February 22d, 1859.

During the six years I have been engaged in the manufacture of the Manny Combined Reaper and Mower, I have given much thought and attention to the construction of what I foresaw would be a great want of the Farmers—a lighter and cheaper machine expressly for mowing, than had yet been made.

And now, after the most thorough and repeated experiments and tests in every variety of field, and in all kinds and in every condition of grass, I am prepared with entire confidence to offer to the farmers and dealers of the United States, the great *desideratum* in this department of Agricultural labor-saving machines—a Mower, superior in its capacity for good work to any hitherto introduced, of easy draft, light, cheap, and durable.

This machine I now offer as my latest invention, to meet a special want of farmers, and to place within the reach of all, a Mower that for practical working, cheapness and simplicity, will be without a rival.

I build Two-Horse and One-Horse Mowers. The Two-Horse Mower weighs 425 lbs., and cuts a swath four feet wide (or more if specially ordered.) The One-Horse Mower weighs 30 lbs. less, (395 lbs.,) and cuts a swath three and a-half feet wide.

For a more full description of the Mower, reference is made to my Pamphlets, which will be furnished on application. With each machine will be furnished two extra guards, two extra sections, one wrench and oil-can.

Warranted capable of cutting ten acres of grass per day in a workmanlike manner.

Price of Two-Horse Mower, ... $80
" One-Horse Mower, ... 70

Delivered here on the cars.

I continue as heretofore, and with greater success than at any previous time, the manufacture and sale of "Manny's Patent Combined Reaper and Mower with Wood's Improvement." WALTER A. WOOD,
Manufacturer & Proprietor,
Mar24—w&mtf Hoosick Falls, N. Y.

PEASE & EGGLESTON 84 State-St., Albany, Agents for Albany County and vicinity.

POUDRETTE!—POUDRETTE!

Is the very best of all Fertilizers, equal in forcing to guano, and not so dangerous to use, as the seed can come in contact with the Poudrette without burning or killing it. For corn and potatoes, on light soil, it is superior to any manure in use. Price per barrel of 225 lbs., only $2; for 10 barrels or more, $1 75 per bbl. For sale by

PEASE & EGGLESTON,
Dealers in all kinds of Implements, Seeds, &c.,
May19—w4tm1t No. 84 State-st., Albany, N. Y.

NEW AND CHEAP FERTILIZER.—

CASTOR PUMMACE.

A valuable *organic* (vegetable) manure, analyzed by Prof Samuel W. Johnson of Yale College, and commended by him. It is PUMMACE left after pressing the oil from the Castor Seed, and in India and England bears a high value as a fertilizer. It will be sold at $12 to $16 per ton, according to quantity—at which rate it is the cheapest fertilizer in the market. The analysis and remarks of Prof. Johnson will be sent to any address on application; samples of the article may also be obtained if required.

No charge for packages, and in lots of Ten Tons, delivered free of cartage in this city. Manufactured and sold by H. J. BAKER & BRO.,
Mar24—w8tm3t 142 Water-st., New-York.

COMMERCIAL AGENTS WANTED.

Able and honest men from New-England or New-York. A. W. HARRISON, Philadelphia, Pa. feb.10–6.

FOR SALE CHEAP.—DURHAM

BULL LOCO FOCO, (1778)—calved March 1853—color red with some white. He is in prime condition, and every way a desirable animal. Price $150—cash.

R. HALE,
Ap14—w3tm3t Aurora, Cayuga Co., N. Y.

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On the Western Plank Road, near the Orphan Asylum, Albany, N. Y.

ALDERSON & JACKSON, Proprietors.

The subscribers are determined to make the best Drain Tile in the United States. Yes, we are determined to make our Tile of pure Yellow Clay, clear of sand or blue clay, and neither gas tar nor coal dust mixed through it, as all those cause the Tile to perish with frost, and they are not so strong. We are determined to make the best Tile ever offered in Albany, and at the following prices:

ROUND TILE—1½ inches round, ... $9 per 1000
2½ inches round, ... 12 "

CUT 14 INCHES LONG.

2 inches rise, ...	$10.50	per 1000
3 "	16.00	"
4 "	35.00	"
5 "	55.00	"
6 "	80.00	"

CUT 14 INCHES LONG.

2½ inches rise, ...	$10.50	per 1000
3½ "	15.00	"
4½ "	18.00	"
5½ "	35.00	"
6½ "	55.00	"
7½ "	75.00	"

Remember our Tile are near 14 inches long. Please give us a call before purchasing elsewhere. Cartage free to docks and railroads.

☞ EMERY BROS., Agents, 62 & 64 State-st., Albany.
Ap7—weow6m2t*.

MYSTERIES OF BEE-KEEPING EXPLAINED, by M. QUINBY—price $1 00—sent by mail postpaid. For sale by L. TUCKER & SON, Albany.

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BUCK-EYE MOWER!

A. F. MAYHER & CO.,

No. 54 Vesey-Street, New-York,

Now offer to the Farmers,

THE BUCK-EYE MOWING MACHINE,

Which is too well known to need any description from us. The Machine is WARRANTED to work well, or no sale.

Farmers wanting

Mowing, or Mowing and Reaping Machines, Harvesting Tools, Agricultural Implements, Seeds or Fertilizers,

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New Agricultural Warehouse, Machinery Depot and Seed Store, No. 54 Vesey-st., New-York,

Between Broadway and Greenwich-sts., near the Washington Market and Astor House, north side of the city of New-York. A. F. MAYHER & CO., Proprietors,
No. 54 Vesey-st., New-York.

☞ *Send for Circular. Remember No. 54 Vesey-st.*

May26—w&m tf.

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Also THOROUGH-BRED AYRSHIRES—Flora Gray, Effie, Jessie and Heifer Calf—also young Bulls. Address

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THE YEOMANS' FRUIT BOTTLE, for *utility, convenience, economy,* and *safety,* is unequalled for preserving fruits in a fresh state in *any climate,* an indefinite time.

"Having used these bottles, we find them exceedingly convenient and just the thing wanted."—JOHN J. THOMAS, in Register of Rural Affairs.

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FINELY BRED IMPROVED BERKSHIRES for sale, at $5 each, by W. H. CLAY,
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FISH GUANO from the Southold Works, in quantities to suit purchasers, put up in barrels, at $25 per ton of 2000 lbs. A. LONGETT,
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Farmers should keep their accounts carefully, and know whether each year's operations will make them richer or poorer!

FARM BOOK-KEEPING.—By W. D. COCHRAN of Detroit. Sets—comprising *Full Instruction* in this excellent system, a careful reading of which will enable an unpractised hand to understand it fully,—also *Day Book* and *Ledger*—for sale at this office—price by mail, post-paid, $2 30. L. TUCKER & SON

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The above valuable work—the best, we have no hesitation in saying, yet issued upon the subject—is for sale at the office of this paper.

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AMERICAN POULTERER'S COMPANION.

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